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NEWS SUMMARY

GENERAL BUSINESS

Zambia link to coast is cut

Landlocked Zambia's remaining road and rail links to the coast were cut when Rhodesian troops destroyed bridges, cutting its main route through Rhodesia to South African ports.

The raid, which has not been officially acknowledged in Salisbury, came despite all-party agreement on pre-independence arrangements at the Lancaster House conference, which allowed delegates to begin talks on a ceasefire in the guerrilla war.

Rhodesian Premier Bishop Abel Muzorewa returned from the conference to Salisbury yesterday to be greeted by a crowd of 30,000 at the airport. He left armed forces commander Gen. Peter Walls to continue the ceasefire negotiations in London. Back Page

TUC row feared if Rolls is hived off

NATIONAL ENTERPRISE Board's links with Rolls-Royce could spark a major confrontation between Government and TUC. The Chancellor, the Industry Secretary and the Employment Secretary have had talks with Mr. Lea Murray, TUC general secretary, to discuss problems that would arise if Rolls were removed from the NER. Back Page.

Few taxpayers saved their October rebates

THE FRENCH FRANC ended the week at the top of the European Monetary System league-table for the first time. Eurofranc and domestic interest rates eased slightly after Paris call money touched a five-year high of 12 1/2 per cent last Monday. The Danish krone and Italian lira came second equal, with the lira aided by expectation of a rise in the Bank of Italy's discount rate soon. The Danish currency is expected to lose its status as a prime credit-worthy borrower. If there is no economic improvement soon, Belgian franc was under no heavy pressure, but remained the weakest EMS currency. Back Page

Commons pay debate likely

The Speaker is expected today to announce a Commons debate on the case of Professor Anthony Blunt, named by the Premier as "fourth man" in the Burgess-Philby-Maclean spy case.

Blunt, the Queen's former art adviser, stayed in hiding, but said in a statement to his solicitor that he intended to stay in the UK and would welcome a full inquiry.

Ulster devolution

Northern Ireland Secretary Humphrey Atkins is expected to put his consultative document on devolution policy in Ulster before Parliament tomorrow. It is understood to contain about six proposals for discussion at a conference on Northern Ireland planned in December. Back Page

2 die in shooting

Two women were killed and at least eight people were injured when a gunman opened fire on spectators at an international cross country run in Belgium. A man, reported to be a patient at an Antwerp psychiatric hospital, was arrested.

Ripper apology

The Yorkshire Ripper apologised for murdering 16-year-old Jayne MacDonald, his sixth victim, in one of the three letters released by West Yorkshire police as part of the £1m publicity campaign to catch the killer.

Mother killed

Mrs. Monica Aigbe, 26, was stabbed to death in front of her eight-month-old baby 75 yards from her home in Hackney, East London.

Evacuation delay

Israel Government backed away from confrontation this week with Jewish settlers at Eilon Moreh on the occupied West Bank by putting off their evacuation for another six weeks, and ordering that only a small portion of land be vacated.

BBC attacked

Environment Secretary Michael Heseltine attacked the BBC for some of its reporting of Government spending plans. He criticised in particular coverage of the protest by Lambeth council in south London against the Government's policy.

Briefly...

Pakistan is to get food aid worth £2.5m from the UN World Food Programme under an agreement to provide for Afghan refugees. Two lifeboats capsized as they went to the aid of a stricken coaster off the Outer Hebrides. Crews of both vessels escaped with slight injuries.

COMPANIES

CHARTERHOUSE GROUP is floating 30 per cent of its subsidiary Spring Grove Securities to raise £25-£11m. Page 20

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Leaders prepare for Common Market summit

Bonn favours 40% cut in UK share of EEC budget

BY JONATHAN CARR IN BONN

West Germany is ready to accept a package deal at the Common Market summit in Dublin next week under which Britain's net contribution to the EEC budget next year would be cut by about 40 per cent.

The Bonn Government recognises that it would have to foot nearly half the additional bill which would result for other EEC members from such a reduction. But it is willing to do so to help avoid the Community crisis it feels would be bound to follow failure in Dublin on November 29 and 30.

In addition to direct action on the budget, Bonn thinks the package should include a commitment to curb surplus production in the EEC milk sector—a further concession to Britain's view—and probably to Community action which would help protect French sheep farmers.

The Germans hope these elements could bring compromise between what Bonn sees as the two poles in the dispute—Britain which is seeking a "broad balance" in its EEC budgetary position, and France which feels Britain should gain little, if anything.

Bonn is therefore pressing behind the scenes for a package along these lines. But senior West German Government sources insist that they have not taken on a broker's role between Paris and London. They show irritation at what they see as British inflexibility so far—and make clear that they do not intend to jeopardise Franco-German relations on Britain's behalf.

There is basic sympathy for Britain's plea that, as one of the poorer members of the Community, it should not become the biggest net contributor to the budget next year. There is also admiration for Mrs. Thatcher's determination in efforts to deal with Britain's economic problems.

But it is noted that France will also be a net contributor to the EEC budget next year, and that President Valéry Giscard d'Estaing cannot return home from Dublin having made concessions to the British view and gained nothing in return.

The West German Government recognises that Britain has the power to block key aspects of Community affairs—for example the farm price review next year—if it does not obtain what it feels are sufficient concessions.

In this case it is made clear that Germany would consider it preferable for Britain to leave the Community than to stay in and block progress. But it is also clear that the Germans would deplore either development.

Bonn believes that Britain's estimated net contribution to the EEC budget next year of about £1bn could be cut by about one-third by modifying the so-called "corrective mechanism".

This is the financial instrument devised at a previous summit meeting in Dublin to help member States paying more than their fair share to the budget. For technical reasons it has never come into play.

The Germans feel that, since the principle of this mechanism has already been agreed, acceptance of alterations to ensure it fulfils its original aim should not prove impossible.

Further benefit for Britain—bringing a cut of about 40 per cent in its net contribution—could be achieved through relatively small alterations in budgetary items such as the regional development fund.

This would still seem to be far from Mrs. Thatcher's demand for a "broad balance." But with a simultaneous declaration by the nine EEC leaders of action to cut farm surpluses, it could be argued that the EEC budget was being shifted away from a policy to which Britain contributes much and from which it gains little.

Bonn recognises that Italy and Ireland—two poorer members of the Community—could not be expected to increase their contributions next year to help Britain. So the Germans believe they will probably have to pay about 45 per cent of the bill for the proposed solution, with France paying about 35 per cent and the Benelux countries the rest.

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Ministers alarmed at level of pay settlements

BY JOHN ELLIOTT AND CHRISTIAN TYLER

MINISTERS ARE alarmed at the level of pay settlements, which are much higher than they hoped for in this first winter for five years free of a direct wage restraint policy.

Their fears will be echoed this week by Sir John Methven, director-general of the Confederation of British Industry, who will tell his monthly council meeting on Wednesday that pay rises this winter are likely to outstrip the levels of the last wage round and exceed 16 per cent.

He will issue a warning that high claims ranging from 20 to 65 per cent are leading to a considerable number of settlements at about 15 to 20 per cent, helping to fuel inflation at a time when companies' finances are coming increasing under pressure.

But in spite of growing speculation among some trade union leaders that Government intervention possibly starting with a freeze is inevitable, Ministers believe it would be disastrous to change course.

They want time for the effects of tight monetary policy to "educate" trade unions in the employment consequences of high pay demands.

This is in line with the CBI's view: the confederation does not want the Government to change its approach to economic problems or to introduce any formal pay policy. Instead, it wants ministers to help increase public understanding of the country's economic problems and to try, during a major meeting of the National Economic Development Council early next month, to start a dialogue with trade union leaders.

U.S. hostages may face 'spy' trials

BY SIMON HENDERSON IN TEHRAN

THE CONFRONTATION between the U.S. and Iran took a grave turn yesterday as the Ayatollah Khomeini warned that most of the 70 hostages held in the U.S. Embassy in Tehran would be tried for espionage unless his demand for the extradition of the Shah was met.

The threat was confirmed by the leader of the Iranian revolution and de facto head of state in an interview with U.S. television networks after the students conducting the siege of the embassy had said that the women and blacks among the hostages would be freed but that the rest would be tried.

Confusion over the nature of decision-making in Iran since the resignation of Mr. Mehdi Bazargan as Prime Minister on November 6 was highlighted by conflicting statements about oil payments.

Mr. Abol Hassan Bani Sadr, the radical whom Ayatollah has given responsibility for foreign and financial affairs, has said again that Iran would not accept dollars.

Asked about a comment by Mr. Ali Akbar Moinefar, Minister of Oil, that he had not ordered such a move, he replied: "I decide and not Mr. Moinefar."

He added that he would not contact Mr. Moinefar until the next meeting of the Revolutionary Council "to clarify the situation."

Atayollah Khomeini has approved the demands of the country's Kurds for a greater measure of autonomy, according to Mr. Hashma Sabaghan, the former Minister of the Interior, who resigned last week but has continued to carry on the negotiations with the dissident minority's leaders.

David Beachan adds from Washington: U.S. officials yesterday privately expressed sharp concern about the latest move in the crisis over the U.S. hostages. But the State Department refused all public comment about the possibility of "spy trials."

Freeing women and blacks was taken to be a move aimed at mollifying U.S. public opinion, which nonetheless has united to a remarkable degree behind the Government's strong stand.

More Britons to cross Atlantic than Americans

BY ARTHUR SANDLES IN LOS ANGELES

MORE BRITONS may visit the U.S. next year than Americans visiting Britain, according to the latest travel industry forecasts. If this happens it will be the first time British travel has topped American since the 1920s.

More than 1m Britons have visited the U.S. this year, a rise of over 40 per cent from last year. This, plus the sharp decline in the U.S. visits to Britain, has considerable implications for the British hotel industry and Britain's balance of payments. Already UK hotel results are showing the impact of the American downturn.

But British travel agents are out in force in Los Angeles for their annual convention to discuss their possible goldmine of growth.

Study to be made into 'alarming increase' in maritime fraud

BY WILLIAM HALL

A STUDY of the "alarming increase" in maritime fraud is being undertaken by the Inter-Governmental Maritime Consultative Organisation, the United Nations maritime agency, as a matter of "priority."

Mr. C. P. Srivastava, IMCO secretary-general, said in London that piracy—fraud by the master or crew of a ship—and the unlawful seizure of the ships and their cargoes had now become a "fairly major problem."

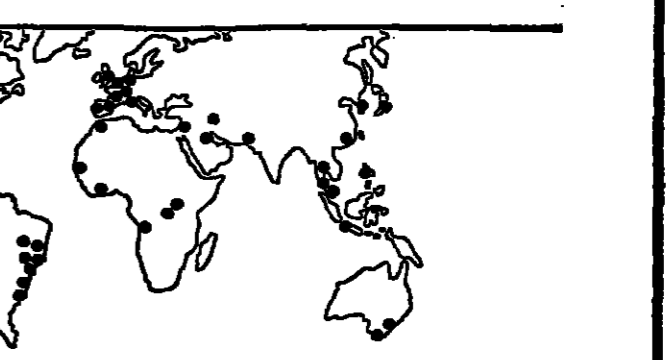
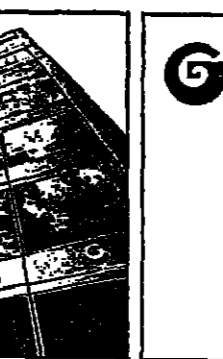
Speaking at the end of IMCO's eleventh biennial assembly he said that the study was one of two steps the agency was taking to try to combat the recent rapid rise in maritime fraud.

The other was a call by the assembly for governments to "take and co-operate in appropriate legislative, administrative or other measures which could help to prevent and surpass these acts."

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Giscard sees Mrs. Thatcher today

By Elinor Goodman in London and Robert Mauthner in Paris

MRS. MARGARET THATCHER faces the most difficult stage yet in her campaign to cut Britain's contribution to the EEC budget when she meets President Valéry Giscard d'Estaing of France in London today for the last of the bi-lateral talks before the summit in Dublin at the end of the month.

Without a major shift in France's attitude, Britain stands no chance of achieving anything remotely approaching the "broad balance" in Britain's contribution which Mrs. Thatcher wants.

But the public posture of both countries, suggested yesterday that they were still far apart. Neither side was prepared to admit having modified its views, and the air was still soured by the lamb dispute.

Mrs. Thatcher is apparently resolved to leave the President in no doubt of the British Government's determination to reduce Britain's contributions. She may give him the impression that Britain is prepared to be very unco-operative about various aspects of Community policy next year if she does not get her way.

There will be no threats of withholding payments, but she is likely to repeat her view that it is a Community problem which requires a Community solution. Without such a solution, the British Government argues, the Community can hardly expect to be able to tackle other problems.

The French recognise there is a problem, but of nothing like the scale the British claim. Their argument is that Britain is largely to blame for the imbalance because it insists on importing so much from outside the Community.

The meeting takes place amid growing scepticism both in Westminster and on the Continent about the chances of Britain getting a settlement which the Prime Minister can present as a success at home.

Even those sympathetic to Britain's case in the Commission believe that the odds are only slightly in favour of a solution coming out of Dublin. If a solution was agreed, it would almost certainly mean Mrs. Thatcher having to settle for an immediate cash reduction of considerably less than the £1bn necessary to get contributions into "broad balance."

Continued on Back Page
French budget row, Page 2

OVERSEAS NEWS

Begin ducks settlement row

BY DAVID LENNON IN TEL AVIV

THE ISRAELI Government, headed by Mr. Menachem Begin, yesterday backed away from a confrontation with the Jewish settlers at Elon Moreh on the occupied West Bank of the Jordan by putting off evacuation of the site for another six weeks.

The Israeli Supreme Court ordered that the land on which the settlement was built in June should be handed back to its Arab owners by Thursday. But the Government, fearful of a violent clash with the settlers who have refused to move, decided that only a small portion of the land would be vacated this week.

The Supreme Court ruled last month after hearing an appeal by some of the Arab farmers whose land was taken for the settlement. The court said that the seizure of the hilltop near Nablus was illegal. It ordered that the land be returned to the appellants within 30 days.

Since then the Government has been trying to find ways to avoid a clash with the militant settlers, members of the ultra-nationalist Gush Emunim movement. At the weekend it came up with a new formula, to evacuate now only the land of the farmers who appealed, leaving the evacuation of the rest of the land for up to another six weeks.

The land to be vacated, 31 acres out of the 175 acres requisitioned from Arab farmers, is dispersed throughout the site. But the settlers say none of their houses are on those particular plots of land, so they have no objection to their being returned to the owners.

The settlers again stressed their determination last night not to quit the rest of the site. They were clearly pleased with the Cabinet decision, and the result of their continuous rejection of attempts to persuade them to move. They appear confident that the Government will now pass special legislation or find some other legalistic way to enable them to remain where they are.

Mr. Elias Khoury, a lawyer who represents the Arab farmers, said last night that he was considering appealing to the Supreme Court to ensure that the rest of the land was vacated.

Meanwhile, protests continue in the occupied territories over the plan to deport Mr. Bassam Shaka, Mayor of Nablus, who is accused of incitement against the occupation.

Sit-down strikes were held in some towns and general strikes in others. Attempts by children to demonstrate were quickly quelled by Israeli troops who have been very evident in the territory since Mr. Shaka's arrest a week ago.

The military authorities yesterday enforced their new policy of preventing mayors from the various towns from gathering together. Mr. Mohamed Muhem, Mayor of Halhoul, was prevented from joining the Mayor and councilors of nearby Hebron on the West Bank, in their sit-down strike, and when he tried to join another sit-down strike in Arab east Jerusalem he was prevented from entering the city.

Protests have spread to Israel. Two Israelis started a hunger strike yesterday outside the Prime Minister's office in solidarity with the hunger strike of Mr. Shaka. Protest meetings were also held in Israeli Arab villages and one of them was addressed by Mr. Shaka's wife.

Hurvitz explains budget plans

BY L. DANIEL IN TEL AVIV

THE PRINCIPLES on which he proposes to base his budget for the financial year starting next April were explained to the Israeli Cabinet yesterday by the new Finance Minister, Mr. Yizal Hurvitz.

He envisages a cutback in all fields of activity except agriculture, industry and housing construction. All development projects are to be frozen forthwith except for those nearing completion. No starts are to be made on new hospitals, schools or social institutions, so as to reduce Government investment.

The overall budget is to be pruned by up to 5 per cent and a similar cut will be imposed on all institutions receiving Government help, such as local authorities, universities, and sick funds. Only bodies which curtail the number of their employees will continue to receive Government aid.

All Government credit is to be linked in full to the cost of living index except for agricultural and industrial production and other branches earning foreign currency.

Meanwhile Mr. Yitzhak Modai, Minister for Energy has proposed a 37 per cent rise in electricity tariffs but this has not yet been approved because of its effect on production costs.

The Minister is due in Cairo later this week to negotiate the exact price to be paid by Israel for 2m tonnes of oil to be supplied by Egypt to Israel each year.

With the hand-over to Egypt of the Alma oilfield on the Gulf of Suez only a week away, a number of other details are still unresolved.

U.S. aid for Bolivia resumed

WASHINGTON—The U.S. yesterday promised to resume foreign aid to Bolivia following the congressional election of Mrs. Lidia Gueiler as interim President.

A State Department spokesman said the U.S. welcomed the return of constitutional government in Bolivia and said aid, which was suspended after a military coup on November 1, would be resumed.

Mrs. Gueiler, Bolivia's first woman President, called leading politicians to the presidential palace in La Paz, yesterday for talks aimed at setting up a new civilian Cabinet.

Elected on Saturday by unanimous vote of the National Congress, Mrs. Gueiler, a 53-year-old accountant, pledged to end the bloodshed caused by the military coup which ousted the elected President, Sr. Walter Guevara Arza.

In an address from the palace balcony, she told a crowd of several thousand: "The coups have ended in Bolivia. There will be no more repression, no more vengeance. The country must now march towards a shining future."

Mrs. Gueiler's appointment followed five days of tough negotiations between military leaders and politicians, seeking some compromise solution to the leadership crisis.

Barre seeks a confidence vote on 1980 finance Bill

BY ROBERT MAUTHNER IN PARIS

FRANCE'S Prime Minister, M. Raymond Barre, has asked the National Assembly for a vote of confidence on the 1980 budget Bill following failure to reach a compromise on Gaudist demands for big cuts in public expenditure.

In theory, the constitutional procedure adopted by M. Barre could lead to the Government's downfall. But this has been ruled out in practice by the contradictory stand taken by the Gaullist RPR Party, one of the two main coalition partners.

Under the French Constitution, the Government can ask for a vote of confidence on a Bill which can then only be defeated if a censure motion is carried by an absolute majority of the National Assembly.

Though censure motions will be tabled by both the Socialist and Communist opposition parties tomorrow, they stand no chance of being adopted because the Gaullists have announced that they will abstain.

It is clear that the Gaullists' decision is motivated by the fear that a Government defeat might persuade President Giscard d'Estaing to dissolve Parliament and call a general election.

If public opinion polls are to be believed, the Gaullists would have their parliamentary



Raymond Barre is challenged by the Gaullists

opposing the budget, has been to show disapproval of M. Barre's economic policies and thus to underline their own identity. There can be little doubt that this tactic has been adopted with an eye on the next presidential election, due in 1981, when M. Jacques Chirac, the Gaullist leader, is expected to run against President Giscard.

In a long speech to the National Assembly on Saturday, M. Barre attacked the Gaullists for their obstructive manoeuvres. He suggested that their demands for cuts were no more than a pretext for weakening the Government.

The Prime Minister also lashed out at his predecessor, M. Chirac, who had accused him of spending more time criticising previous governments than getting his own policies right.

M. Barre said: "When I took office, I did not have time to criticise my predecessors, given the number of things which I had to do, undo and re-do."

strength reduced if an election were held now. Their main objective in

Kuwait worried by the Carter freeze

BY OUR FOREIGN STAFF

KUWAIT has officially expressed apprehension about President Carter's decision to freeze Iranian assets deposited and invested in U.S. institutions.

The Kuwaitis have described the measure as "an extremely dangerous precedent."

Speaking after a Cabinet meeting, Mr. Abdul-Aziz Hussain, Minister of State, said: "The decision has raised grave concern about the future of international financial relations, thus exposing the world economy to unforeseeable dangers."

Kuwait is believed to have at least \$5bn worth of assets in the U.S. in the form of bank deposits, U.S. Treasury bonds, equity portfolios and real estate out of the state's total reserves of over \$30bn.

"From our point of view the step is an extremely important precedent which widens the definition of national interest and leaves the door wide open for individual interpretation," Mr. Hussain said. "Kuwait does not sanction such a freeze and

warns against its consequences."

Sheikh Ahmed Zak Yamani, Saudi Minister of Oil, said in Jordan at the weekend that he hoped the U.S. action against Iran would not set a precedent. However, he did not expect the blocking of Iran's assets or the interruption in supplies of its oil to the U.S. to affect the overall oil supply situation.

Any move on the part of the Organisation of Petroleum Exporting Countries to use a basket of currencies for calculating oil prices would be aimed only at easing the impact of currency fluctuations and would have nothing to do with the freeze on Iranian assets.

In Washington, meanwhile, a study prepared by the U.S. Library of Congress has predicted that Iran's financial requirements are likely to prevent it from reducing oil exports to the lower level wanted by some of the country's leaders. It argued that despite drastic budget cuts Iran would still need to sell at the rate of 3.3m barrels a day.

Thailand to move 560,000 refugees to transit camp

BANGKOK — The Thai Government will start moving about 560,000 Kampuchean refugees away from border areas next week.

Relief agencies said work started yesterday on a vast transit centre seven miles inside Thailand. It will be available for all refugees wishing to cross the Thai-Kampuchean border.

Most of the refugees are massed in sprawling camps of bamboo and grass shelters along the frontier north of Aranyaprathet, 170 miles east of Bangkok.

About 130,000 people are camped south of Aranyaprathet in an area where guerrillas loyal to the ousted Kampuchean leader, Pol Pot, have come under attack from the Vietnamese-led forces of the present Kampuchean Government.

The Thai military authorities are anxious to move the refugees away from the frontier in case the fighting worsens.

The Government announced last month that it would establish three holding centres where the Kampuchean could receive their health before being moved to a planned camp in Most That province, capable of holding up to 300,000 people.

But these plans were based on the expectation that 380,000 Kampucheans would cross into Thailand once the fighting drew near to them. Now, relief agencies say as many as 750,000 people could flood into Thailand, a country where 200,000 Indo-Chinese refugees are already housed in official camps financed by the United Nations.

In addition, the relief agencies quoted Thai officials as saying about 80,000 Thai nationals have been forced from their homes near the border by the threat of fighting.

Military officers said yesterday that about 5,000 people a day were arriving at the frontier in search of food and there appeared no end to the flood of Kampucheans.

The relief agencies said the movement into Thailand from the frontier zone would start next Sunday, with batches of 200 people escorted by Thai soldiers crossing the border every 10 minutes to walk to the new transit camp.

The Secretary-General of the Thai National Security Council, Mr. Sidhi Savetsitda, said the Government had decided to move the refugees to protect them from shelling.

Ceausescu to urge higher productivity on Romania

BY ANTHONY ROBINSON, EAST EUROPE CORRESPONDENT

PRESIDENT Nicolae Ceausescu today opens the 12th Congress of the Romanian Communist Party which is due to continue another five years of high investment and selective economic growth.

Higher productivity plus energy savings and the development of domestic energy sources and nuclear energy will be the top priorities for the next five-year plan starting in 1981.

But some concessions will be made to consumers who have shown increasing signs of discontent after years of sacrifices.

The congress has been preceded by considerable diplomatic activity. Over the last three months President Ceausescu has played host to the West German, Italian and Chinese Foreign Ministers as well as to Marshal Tito of Yugoslavia and the French Socialist Party leader, M. Francois Mitterrand.

Romania's independent foreign policy, marked by a refusal to increase military spending as demanded by the Warsaw pact summit last year,

its observer status in the non-aligned movement and open disagreement with the Soviet Union is expected to be underlined in President Ceausescu's opening speech.

The Chinese Communist Party is sending a delegation led by Mr. U Lan-fe, a member of the Politburo. And the Soviet Party is sending a delegation led by the Politburo veteran Mr. Arvi Beishe.

Other Communist parties are sending low-key delegations as the only Euro-Communist part to send a top-level delegation is the Spanish Party led by its secretary, Sr. Santiago Carrillo.

Obvious sensitivity to criticism of the cult of personality around Mr. Ceausescu has resulted in a less ostentatious display of portraits of the Romanian leader for this congress, although the streets of Bucharest are bedecked with flags.

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Bid to step up business between Mexico and Brazil

BY DIANA SMITH IN BRASILIA

MEXICO will sell 20,000 barrels a day of oil to Brazil next year, about 2 per cent of its total oil exports for the year. In future, however, sales are likely to increase as part of an overall design to develop trade, industrial, technological and political relations between the two countries.

The visit to Brasilia last week of Sr. Jorge Castaneda, the Mexican Foreign Minister, and simultaneous inaugurations of the first Mexican-Brazilian Commission on Trade, Science and Technology have been treated as events of particular importance.

Sr. Castaneda's talks with his Brazilian counterpart included discussions on industrial co-operation, formation of joint ventures and complementary investments in the Latin American area.

and Mexico can complement each other industrially and technically will determine the rate of future oil supplies, Sr. Castaneda indicated. "Within our limits, I am sure we can increase supplies," he said.

The Brazilian Government is gravely worried about medium-term oil supplies, since Iran is its third largest supplier.

It is attempting to restructure its oil purchasing system, turning to non-Middle East producers like Mexico, Nigeria and Venezuela. The Venezuelan and Nigerian authorities have recently agreed to increase sales, respectively, to 50,000 barrels a day and 40,000 b/d next year, from the current 28,000 and 23,000 b/d.

● Brazil has offered to build oil search platforms for use in Chile's southern waters and to

provide Chile with technology to build equipment for crude oil refineries and liquid gas plants. Reuter reports from Santiago.

The proposal was raised at a meeting between Sr. Mauricio Albarenga, production head at Petrobras, the Brazilian state oil company, and Sr. Carlos Quinones, Chile's Mining Minister. Sr. Quinones was told the platforms could use either Brazilian or Chilean technology and would be able to operate in waters up to 150 metres deep.

Sr. Albarenga said Chile was ready to undertake a complete search of its deeper waters, while Brazil was prepared to buy a larger quantity of liquid gas than ENAP, the Chilean state oil company, now provides, provided the price was reasonable.

Trade deficit widens

● MEXICO CITY—Due to a leap in the value of oil, Mexico's merchandise exports in the first nine months of 1979 rose 47 per cent from the year before, but imports also jumped, causing Mexico's trade deficit to widen.

Banco de Mexico, the central bank, reported that exports climbed to \$5.83bn (£2.3bn) from \$4.03bn a year earlier. The value of oil exports soared to \$2.48bn from \$1.15bn. Oil accounted for 42 per cent of all merchandise exports, up from

a 29 per cent share a year earlier. Excepting oil, there was a 2 per cent decline in exports. Imports jumped 45 per cent to \$8.21bn from \$5.73bn. Imports of capital goods were \$3.13bn, up 53 per cent from the 1978 period.

The central bank also said that Mexico's merchandise exports to the U.S. during the first nine months of 1979 rose 42 per cent to \$4.01bn. Imports from the U.S. rose 53 per cent to \$5.01bn.

SHIPPING REPORT

Dry cargo rates more settled after last week's increase

BY WILLIAM HALL

AFTER THE dramatic rate increases of the previous week, activity in the dry cargo market was less spectacular last week, although the underlying tone remains firm.

Having touched \$47.50 in the first week of this month, the Gulf/China rate for 25,000-tonners carrying grain has settled down at around \$43-\$44 per ton. This is still over a fifth above the going rate at the end of last month and Denholm Coates reports that Chinese charters should continue to be active to the middle of next year.

The U.S. Gulf/Japan rate has also strengthened and the rate for 30,000-ton grain cargoes, at \$29 per ton, is about \$1 per ton above last month's peak.

In the Atlantic grain trade Galbraith Wrightson report

that rates for larger size tonnage (50,000-tonners) on the U.S. Gulf/Holland run have risen another 25 U.S. cents to \$19 per ton.

In the raw material sector of the market, rates have continued to drift higher. The coal trade has been busy and the rate for Hampton Roads—Japan, for a 50,000 tonner, has been close to \$20 per ton—double the rate of 12 months ago.

Iron ore charters are also coming under pressure to move the balance of the contracts prior to the year's end.

Last week a 355,000-ton cargo of iron ore from Tubarao in Brazil to Taranto, in Italy, was arranged at \$7.50 per ton.

With the U.S. Great Lakes season nearly finished, Galbraith Wrightson report that time charter rates have probably peaked for the time being in the

Atlantic. Period business beyond one year remains pretty rare.

In the tanker markets the main talking point and activity has been at a pretty low level. The U.S. ban on Iranian oil imports has meant that tankers which had been operating on the U.S.-Iran run are now seeking other loading terminals in the Gulf.

This has led to a weaker trend in the market and the going rate for very large crude carriers Arabian Gulf-West, has dipped below Worldscale 50 to Worldscale 47-48. But over the longer term, the feeling is that the disruption of Iranian supplies should not adversely affect the tanker market since the same volume of oil still has to be shipped around the world.

Canadians tipped for Australian satellite

By Patricia Newby in Canberra

THE AUSTRALIAN Government has decided to use a Canadian Hermes satellite in a test to gauge the effects of heavy rainfall of the satellite transmission of television programmes.

The decision to use the older-type Canadian equipment in the test is seen as giving Canada the edge in the bidding for the supply of the space component of an A\$150m (£79m) domestic communications satellite system, which Australia hopes to launch by 1984.

The space segment of the project consists of three satellites, two of which will be put into orbit and a third to be used as a spare.

The Government is expected to advertise abroad in the next few weeks for expressions of interest in the space segment. It is widely felt here that if the Canadian Hermes tests prove successful, Canada will be in an advantageous position.

The Canadians are particularly anxious to supply Australia with its modern Anik C satellite.

Australia has decided to proceed with a domestic satellite programme in an effort to improve communications with the more remote regions of the continent.

● Australia's exports to India rose by nearly 40 per cent in 1978-79 over the previous year, an increase of nearly \$1.49m, AP-DJ reports from New Delhi.

From \$54m in 1977-78, Australian exports, which include wool and coking coal, jumped to about \$133m last year. Mr. Mahesh Prasad, joint secretary in the Commerce Ministry said following three days of Indo-Australian trade talks. Imports from India rose from \$108m to \$125m worth, an increase of 16 per cent.

Nuclear review threatens U.S. sales

BY DAVID BUCHAN IN WASHINGTON

THERE IS now a serious question whether the U.S. Nuclear Regulatory Commission will license the sale of reactors abroad until it completes its safety review at home in the wake of the Three Mile Island accident.

This is of sharp concern to big U.S. nuclear constructors like Westinghouse and General Electric, who fear a further licensing delay will lose them markets to foreign competitors.

In particular, the Philippines might invite Framatome, the French concern, to finish off the reactor there, which Westinghouse still lacks a U.S. licence to complete.

The NRC has, in fact, announced no temporary ban on reactor licences. The agency has been near totally preoccupied in trying to quell the public uproar over the Three Mile Island accident. But it says it will not grant any domestic reactor licences until next spring.

Agency chairman Mr. Joseph Hendrie, said his agency will

need several months—perhaps a year—to absorb technical lessons from Three Mile Island and digest criticism that the NRC has been too lax and complacent on reactor safety.

Some NRC staff officials believe it would be illogical for the agency to licence reactor exports while refusing licences at home.

The backlog of pending reactor export licences is much smaller than of licence applications at home. The present tally is some half-dozen for three countries—the Philippines, South Korea and Spain.

South Korea is worried about getting its U.S. reactors. But it is the controversial Westinghouse plant in the Philippines that has raised the issue of whether the U.S. will care for stringent nuclear safety—is going to squeeze itself out of the world reactor market.

Westinghouse's Philippine deal, agreed in 1976, has been a long-running saga. Westinghouse finally cleared the first

hurdle in getting a U.S. licence for the reactor when the State Department ruled on September 28 that its export did not conflict with non-proliferation goals.

But two things have happened. President Marcos of the Philippines said he wants the pressurised water reactor (like the Three Mile Island one) which he was buying from Westinghouse to be made safer.

Westinghouse countered by saying it would incorporate any extra safety features, up to the highest level demanded by the NRC in the U.S. But of course it would cost the Philippines more.

Secondly, two environmental groups have petitioned the NRC to consider the health and environmental objections to the plant. (The State Department has the first say in granting a reactor licence, the NRC the second say, after which it can only be overruled by President Carter.)

The NRC has taken these petitions as a catalyst for it to

decide in general terms whether or not it has the jurisdiction to pronounce what is good or safe for foreigners as well as Americans. It is now wrangling with the problem.

If it decides it is not the guardian of foreigners' nuclear health and safety, then the NRC is likely to continue issuing reactor export licences, no matter how protracted its review of domestic nuclear safety in the U.S. turns out to be.

The NRC may however decide there are good grounds for it to be concerned about environmental factors, but a Westinghouse executive complained last week that this would amount to Uncle Sam playing "big brother," and many governments would find this unacceptable.

President Marcos is happy with the plant site, though not totally with the Westinghouse reactor, and has indicated he would not be averse to a company, like Framatome finishing the job.

GATT delays decision on safeguards measures

BY BRIJ KHINDARIA IN GENEVA

THE DECISION-TAKING Council of GATT—the General Agreement on Tariffs and Trade—has postponed until next Thursday discussion of a major dispute between developing and industrialised countries.

This includes the crucial safeguard measures to limit imports of particular products when they cause or threaten to cause serious injury to domestic industry on which no agreement has so far been reached within the Tokyo Round.

The argument has been further complicated by fears among the smaller industrialised countries in Europe that they will have no recourse

against import curbs imposed by their larger colleagues.

Separate negotiations will continue in small informal groups to pave the way for next Thursday's discussion.

In a separate move the GATT council has set up an investigation panel to study a complaint by Canada against Japanese tariffs on leather imports. Japan has imposed strict curbs since World War II on certain leather imports to protect its backward leather workers, who must be given special support under Japanese legislation.

The Canadian complaint is similar to one lodged by the U.S. earlier this year.

Britain to ease export credits cover for Sudan

BY JAMES BUXTON

BRITAIN'S Export Credits Guarantee Department is expected to relax the terms of its insurance cover for exports to Sudan following last week's agreement in Paris on a major rescheduling of Sudan's overdue debt.

As payments from Sudan have fallen more and more into arrears ECGD has restricted its cover to trade financed outside the country and to a limited amount of routine imports. But when the rescheduling programme comes into effect ECGD should be able to resume cover on more relaxed terms, a spokesman said.

Representatives of 12 OECD countries in the Club of Paris, a grouping of export credit agencies, last week agreed with Sudan to recommend to their governments that they carry out a "major" rescheduling of Sudan's official and officially insured overdue debt.

It was agreed that Sudan would repay the debt over a seven year period.

The total amount of Sudan's overdue debt of all kinds, including short term debt of under one year, was put by the International Monetary Fund at just over \$1.1bn.

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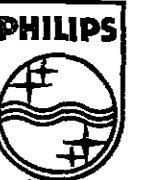
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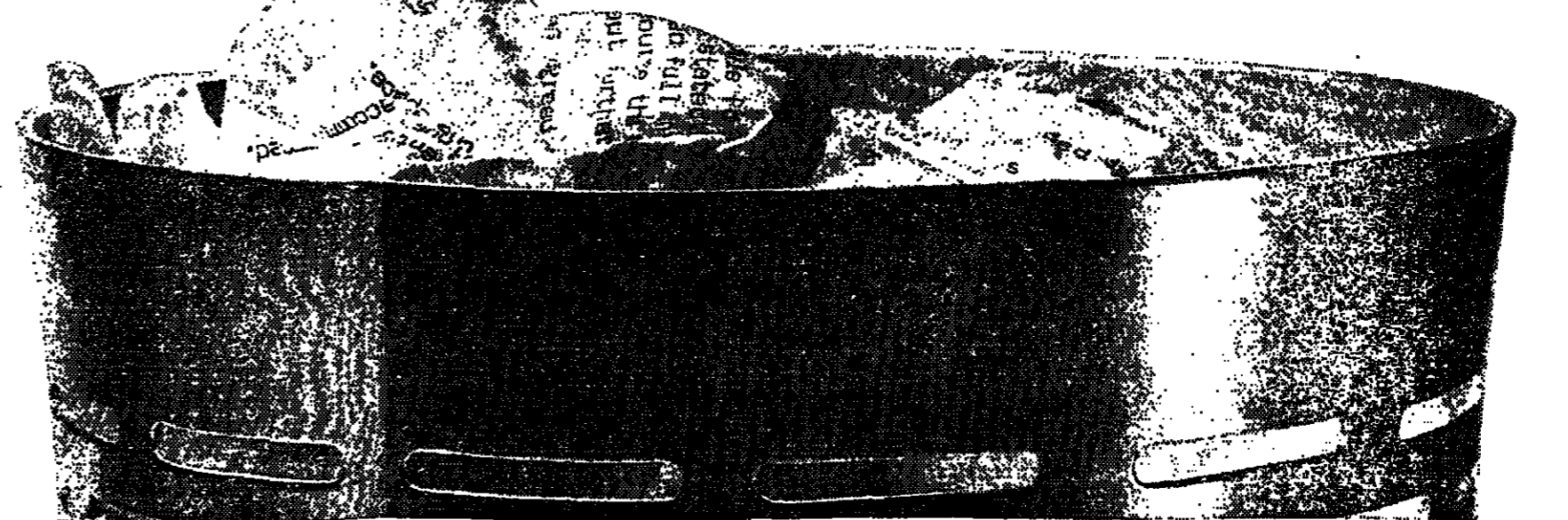
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BANK OF SCOTLAND

Base Rate

The Bank of Scotland intimates that, as from 19th November, 1979 and until further notice, its Base Rate will be increased from 14% per annum to 17% per annum.

LONDON OFFICES—DEPOSITS
The rate of interest on sums lodged for a minimum period of 7 days will be 15% also with effect from 19th November 1979

UK NEWS

Exploration licences may be restricted

By Ray Dafter, Energy Editor

THE GOVERNMENT is expected to announce details of a new round of offshore exploration licences within the next week. But there are likely to be fewer blocks to be awarded than many in the oil industry had hoped.

Mr. David Howell, Energy Secretary, has apparently resisted industry pressure for a large and wide-ranging seventh round of licences. There are thought to be two main reasons for this.

First, it is felt in the Energy Department that the industry still has much exploration and appraisal work to do on blocks issued in previous licence rounds—particularly the sixth. It is also questioned whether the drilling rig market would have enough spare capacity to meet a big rise in demand.

Second, the Government is still working on a depletion policy for the UK Continental Shelf. It may be concerned that a rush of exploration and development could result in a production level in the mid-1980s considerably above the rate of domestic consumption. It has been said in Whitehall that, if there were fears that output in the 1980s looked like dropping below consumption levels, it was open to Government to issue another batch of licences in the near future.

But it could be more than a year before details of the seventh round are settled. Companies will probably be asked to bid for designated blocks early in the new year so that the awards can be conditionally made in the spring.

On this basis it is unlikely that the operating conditions can be negotiated and finalised before spring 1981. But this would still enable companies to start seventh-round exploration drilling in the summer or autumn of that year.

The exact size of the proposed licence round is not known but it is thought that Mr. Howell will emphasise the "quality" rather than "quantity" of the concessions put on offer. This should indicate that there is a reasonable chance for companies to discover oil or gas reserves in a high proportion of the blocks put on offer.

Even so, many companies will be disappointed. They have been urging the Government to offer a large number of blocks in various parts of the UK Continental Shelf. In this way, they argue, the industry and Government can build up a better picture of Britain's oil resource potential.

Even if new fields are found, they say, the Government can still control the rate of depletion by delaying its consent for various field development plans.

National Savings rise

NET NEW RECEIPTS from National Savings last month totalled £47.9m or £12.7m after crude interest. The figures for the October were swelled by a net increase of £30m into the National Savings Bank investment account, the highest intake for this account so far this year.

The interest paid on the NSB account was increased to 12 1/2 per cent in September. This will soon rise a further 2 1/2 per cent to 15 per cent following the Government's measures last week.

Also announced last week was a 19th issue National Savings Certificate. This is particularly timely in view of dwindling sales of the 18th issue. The 19th issue will return an overall compound interest rate of 10.33 per cent a year tax free, compared with the 8.45 per cent on the 18th issue.

In October sales of the 18th issue totalling £33.99m only just exceeded repayments of £33.4m.

The National Savings Certificate retirement issue continued its good performance this year, showing a net increase of £16.5m.

Premium savings bond receipts of £11.6m showed an improvement on recent months, but with repayments remaining at a high level only a small net increase was recorded.

Sun group steps up North Sea oil search

By Ray Dafter, Energy Editor

SUN, THE U.S. based energy group, has designated the North Sea and other areas of the UK continental shelf for its major international oil exploration in the next five to ten years.

Mr. Theodore Burtis, the group's chairman, said in London that Sunmark Exploration Company—the exploration arm of Sun—recently completed an extensive review of the geological basins of the North Sea and the North West European continental shelf. It concluded that the area had "significant potential for future oil and gas discovery."

Subsidiaries

The group hopes to be involved in drilling activity through its subsidiaries, North Sea Sun Oil, Norsk Sun Oil, and Irish Sun Oil. The UK company says it is planning to bid for concessions in the seventh round of offshore exploration licences expected soon. It has already told the Energy Department which areas it would like to see offered to companies.

There have been signs that the Government will favour UK-based companies, particularly as the influence of the State-owned British National Oil Corporation is being reduced.

Consequently, Sun is strengthening its North Sea consortium to include 50 per cent British participation for the seventh round bidding.

Existing Sun partners are Clyde Petroleum, Hampton Gold Mining Areas, Hautpas (a subsidiary of Bower) and North Sea Exploration and Research (a subsidiary of Union Rheinische Braunkohlen Kraftstoff).

Mr. Burtis said the Sun group in the UK would soon start drilling a second well on block 16/21a, north-east of Aberdeen and close to the Andrew field.

This well, to be drilled by the semi-submersible rig Pacesetter 1, would be sunk north-east of the block to determine if sufficient reserves and production potential warranted development.

Wells on other offshore prospects were planned for 1980.

Partners

MR. DENYS RANDOLPH has started a High Court action against Wilkinson Match claiming damages for alleged wrongful dismissal. He was sacked as chairman of the consumer products group in September.

Mr. Randolph said a writ may be served today. He had no intention of relinquishing his non-executive directorship of Wilkinson. He was voted out of the chairmanship two months ago after turning down a £10,000 offer to leave the board.

Labour hedges over compensation for renationalisation

By ELINOR GOODMAN, LOBBY STAFF

SHADOW MINISTERS will be deliberately ambivalent this week about the policy approved by this year's Labour Party conference on the renationalisation of State assets sold by the Government.

In the Commons debate beginning today on Government plans to sell shares in the aviation and aerospace industries, the Opposition will emphasise that it is Labour policy to take back into public ownership those companies sold by the Conservatives. They will warn that nobody will be allowed to make excessive profits from renationalisation.

But they will not present the conference commitment to renationalisation without compensation as hard and fast party policy.

Nationalisation has always been one of the most central and emotive issues in Labour policy. The importance of this year's debate has been heightened by its being interpreted by some sections of the Parliamentary Labour Party as a test of the extent to which the Shadow Cabinet will feel bound by the conference decisions in the light of the way conference has tried to impinge on the authority of MPs in other areas.

The debates on aviation and aerospace will bring to a head an argument which has been simmering in the party's industry committees since MPs returned to Westminster.

Moderates have been arguing that, in practice, it would be impossible for a Labour Govern-

ment to re-acquire shares without some form of compensation. They say that to do so would amount to confiscation—which has never been party policy, and which would inevitably hurt workers as well as speculators.

Some left-wingers argued, however, that the Shadow Cabinet had a duty to reflect the views of the conference and that the conference had quite clearly voted in favour of renationalisation without compensation.

A compromise was worked out at last week's meeting of the Parliamentary Labour Party using the national executive's decision to set up a working party on nationalisation as an excuse for getting both sides off the hook.

At the meeting, Mr. Eric Heffer, a member of the executive, pointed out that the NEC had itself acknowledged the practical problems involved in renationalisation without compensation, and had recommended that a committee should be set up to study them.

Until this committee had reported, it was agreed, shadow ministers should not commit the Opposition beyond saying that shareholders would not be allowed to make excessive capital gains through renationalisation.

In this way, the PLP avoided a vote which could well have resulted in Labour MPs asking the shadow cabinet to ignore the expressed wishes of conference.

Higher prices, or reduced supplies, of oil, as well as competitive interest rate increases among the major countries, are likely to depress output. Apart from Japan, however, international short-term interest rates are thought to be closest to their cyclical peak, although a turning point may not be imminent.

Real GNP is likely to fall by 1.2 per cent next year in the U.S. and 1-1.5 per cent in Britain. Elsewhere, output growth will be low but positive, although only Japan, of the major countries, will achieve growth of more than 3 per cent, and only West Germany and Australia of more than 2 per cent.

General distribution problems led to shortages in pockets throughout the country. The management said the company was confident the problems would be overcome by next Sunday. It apologised to readers, advertisers and retailers for causing them disappointment at not being able to obtain the relaunch issue.

A leading article said the paper's suspension for so long had been a "disaster" but the justification must lie in the future with better service to its readership.

Growth GNP 'will be small'

By David Marsh

THE MAIN industrial countries are expected to achieve practically no economic growth in 1980, although consumer price inflation is likely to remain in double figures for most of the year, according to an international preview by stockbrokers Phillips and Drew.

Real gross national product among the 24 nations in the Organisation for Economic Co-operation and Development is forecast to grow by only 0.5 per cent, after a 3 per cent increase this year. OECD consumer price rises are not expected to moderate, and will average about 10 per cent next year.

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Government plan makes gilt-edged prospects 'bullish'

By Peter Riddell, Economics Correspondent

THE GOVERNMENT'S monetary measures last Thursday have bullish implications for gilt-edged prices and interest rates over the next year, according to a batch of new stockbrokers' circulars published at the weekend.

Brokers L. Messel say "present yields provide an excellent buying opportunity." Craig and Cruickshank describe the prospects for gilts as bullish though they do not believe that the "bull market proper" will start until February. Panmure Gordon and Co. take a similar view.

These comments are in line with the strong demand for gilt-edged stock at the end of last week after the Government's measures were announced. Funding of £1.5bn was tied up and an £800m 1985 stock is being offered for sale by tender on Thursday.

The common theme in the brokers' circulars is that bank lending to the private sector should ease from the late winter onwards and that this should permit lower interest rates.

Laing and Cruickshank argue that the demand for credit would in any case have fallen from next February so the measures should be seen as reinforcing the recessionary forces already at work.

On this view, the measures are aimed at ensuring monetary

stabilisation for the rest of the fiscal year. For this reason Minimum Lending Rate is likely to be held at 17 per cent until February. But it may be cut then and from May reaching 10 per cent by the end of next year.

L. Messel says the measures had the "quality" constraint of intention of restricting the financial targets envisaged in the June Budget.

"The only sense in which Government policy has become more restrictive is that the Chancellor has refused to accommodate the deterioration in the inflation outlook caused by excessive loan demand, big pay claims and the latest rise in oil prices."

The firm regards this "as clearly encouraging in the long run and we reiterate our view that the coming recession will lead to much lower inflation and interest rates."

Panmure Gordon and Co. believe the measures should ensure that the remaining funding of Government borrowing in 1979-80 will be comfortably achieved. The brokers suggest that the action will accelerate and deepen the recession in early 1980.

"Appalling inflation prospects imply a tightening of real personal incomes which will in turn reduce recent credit pressures despite the absence of new consumer credit restrictions."

Sacked chairman starts claim for damages

By Gareth Griffiths, Labour Staff

MR. DENYS RANDOLPH has started a High Court action against Wilkinson Match claiming damages for alleged wrongful dismissal. He was sacked as chairman of the consumer products group in September.

Mr. Randolph said a writ may be served today. He had no intention of relinquishing his non-executive directorship of Wilkinson. He was voted out of the chairmanship two months ago after turning down a £10,000 offer to leave the board.

At the time, Mr. Randolph said he refused the offer because he did not want to be blamed for what he saw as the deteriorating financial position of the company.

Sir Richard Powell, the former deputy chairman of the group replaced Mr. Randolph as chairman. Since then, Mr. Brian Taylor, managing director of Wilkinson's safety and protection division, has left the company because of disagreements on policy.

Problems mar Sunday Times relaunch

By Gareth Griffiths, Labour Staff

THE SUNDAY TIMES, republished yesterday after nearly a year's absence, lost 300,000 copies from its planned 1,550,000 printing run due to a combination of production and distribution problems.

A spokesman for Times Newspapers said there had not been any labour difficulties with the relaunch and all the unions had co-operated in an attempt to overcome the technical problems. They arose because machinery, unused for 11 months,

had had only one or two dummy runs. About 20,000 copies of the paper were not distributed because of a continuing dispute in W. H. Smith's warehouse in Peckham involving members of the Society of Graphical and Allied Trades. The men want extra payments for handling both The Times and The Sunday Times in South London.

There were distribution problems in the North because of railway work around Carlisle and no copies were sold on Merseyside.

General distribution problems led to shortages in pockets throughout the country. The management said the company was confident the problems would be overcome by next Sunday. It apologised to readers, advertisers and retailers for causing them disappointment at not being able to obtain the relaunch issue.

A leading article said the paper's suspension for so long had been a "disaster" but the justification must lie in the future with better service to its readership.

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*Prices on ex-manufacturer basis, plus postage.

UK NEWS

Retailers call for consumer laws overhaul

By DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

AN OVERHAUL of all consumer protection legislation will be demanded this morning by Mr. Richard Weir, director of the Retail Consortium, which represents more than 90 per cent of Britain's retailers. He will make his appeal to the Government at a London trade conference on consumer protection laws as the final touch to an independent research study into the costs and benefits of the legislation are being made. This study, by the Economist Intelligence Unit at the request of a number of major companies, is expected to be published in the next few weeks. Its probable conclusion, that the cost of consumer protection outweighs the benefits, is certain to be hotly disputed by UK consumer organisations. Mr. Weir says that to restore the balance between the interests of the consumer and commerce a review of the "frightfully muddled" consumer protection laws is needed.

British Airways to double Gatwick use

By Michael Dome, Aerospace Correspondent

BRITISH AIRWAYS could become Gatwick's biggest single airline early in the 1980s, in view of the State airline's expansion plans. Mr. John Story, newly-appointed British Airways manager at Gatwick, says that the airline plans to double the number of passengers it carries into and out of that airport to 2m in two years' time. "We intend to become the dominant airline at Gatwick, working closely with the British Airports Authority, to help it grow as a major international airport," says Mr. Story. Next year, BA will launch eight new scheduled services from Gatwick - to Stockholm, Bologna, Madrid, Barcelona, Valencia, Bilbao, Lisbon and Oporto, joining the airline's existing scheduled flights to Faro, Malaga, Alicante and Palma. BA, through its charter subsidiary, British Airtrons, is already a big holiday operator at Gatwick. In the next two years BA will also be introducing two new types of jet airliner, the Boeing 737 and the Lockheed TriStar Dash 200, replacing ageing Boeing 707s.

NEWS ANALYSIS - FORESTRY

Planting for a 21st century harvest

By CHRISTOPHER PARKES

TAKING STOCK after the First World War, the Asquith Government quickly realised that the devastation wrought by the conflict spread far beyond the graveyard acres and blood-soaked battle fields of Northern Europe. Britain's landscape had been devastated by the search for timber to support the war effort. Demand for packing cases, ammunition boxes, coffins, trench cladding and duck boards stretched Britain's forests reserves to their limit. A million acres of trees were cut down to fuel the war. In 1914 there were 2.7m acres of forest in Britain. In 1919 there were only 1.68m acres, and surveys showed that the remaining trees had little or no value: only the best had been shipped across the English Channel. With remarkable foresight and alacrity, the Asquith administration decided that these strategic reserves had to be rebuilt. The Acland Committee recommended that the nation should undertake to create reserves of standing timber enough to guarantee supplies for up to three years as insurance against another war or similar national emergency. Sixty years ago this month, acting on the committee's recommendation, the Govern-

ment set up the Forestry Commission. It was given until the end of the century to establish a forest estate for the nation extending to 1.8m acres and to help encourage the planting of an additional 3m acres of private woods. Although strategic requirements and economic circumstances have been revolutionised, the Forestry Commission is still plugging on gamely towards these objectives. In spite of considerable pressure from all quarters, the 4.8m acre target has hardly been changed. Forest resources have been doubled since 1919, but Britain produces only 10 per cent of its timber needs. This year, the commission and private woodland owners will produce some 4m cubic metres of wood, worth £140m at import prices. But the country will spend £2.4bn on timber and wood products from overseas. Common Market plans for increasing EEC timber production have been largely ignored, along with appeals from private foresters for greater planting incentives. The commission itself, a quango of the old school, could even find its scope and budget severely reduced in these times of economic stringency. The commission tends to support recent recommendations that the national forest should be doubled by the year 2050 to make Britain about 25 per cent self-sufficient, but it has so far had no indications that the Government is prepared to put up the money and provide the necessary aid for private landowners. The trouble with trees is that they take so long to grow. This tends to influence decisions made on forestry policy. Government has enough trouble managing from day to day without the worry of wondering about the advisability of sponsoring the planting of oak trees which may not reach their prime for 200 or 300 years. Even softwood varieties suited to the British climate take at least 60 years to mature. Propagation Sixty years ago, the 16th Lord Lovat, Simon Fraser, and Lord Clinton, laid the foundations of the forestry policy, planting trees with much ceremony in Monaghly Forest, near Elgin, and Eggesford Forest, in Devon. In the next 10 years, the commission bought 602,000 acres of land, including 130,000 acres from the Crown. It had planted almost 140,000 acres of its holding, and was nursing more than 300m seedlings in its propagation farms. But its pride in these achievements was dented by some of the earliest recorded objections from environmentalists. The conservation lobby complained that the commission was planting too many conifers, and that its forests lacked amenity value. The commission patiently pointed out that of the 10m tonnes of timber then used annually in Britain, 9m tonnes was softwood. Conifers were well suited to growing in the limited areas of Britain not used by conventional agriculture and they matured in 60 to 100 years compared with 120 to 150 years for broad-leaved trees, thus giving "much better financial yields." But the commissioners conceded that their policy was to some extent spoiling the landscape. They suggested planting hardwood trees in strategic areas, avoiding straight edges to plantations and mixing varieties. There was no doubt, however, that the commission was a success. More Government funds were diverted into extending the forests, and by the outbreak of the Second World War, the contingency foreseen by Mr. Asquith, there were 600,000 acres of trees. Newly-planted areas, only 20 years old at the most, were not suitable for wartime, and the commission was instructed to supply what it could from the private woodlands spared during the 1914-18 war. While half its staff was occupied planting new trees, the other half was busy chopping down the old. But once again the strategic value of forestry was recognised, and in 1945 the Government once again set a target: 5m acres by the end of the century. The Forestry Act of 1947 introduced grants for private woodland owners, and plantings increased rapidly. Only nine years later, the commission reached another milestone, the Queen officiating at the formal planting of the millionth acre of nationalised trees. By 1976, the commission had 2m acres in trees and it is still expanding. It has 2.2m acres of forest and 190,000 acres awaiting planting. Including private woodlands extending across 2.1m acres, the total is close to Mr. Asquith's target. As the diamond jubilee celebrations get under way, the Government might ask itself the questions being pondered in the commission: how well suited is Mr. Asquith's policy to British needs in the 21st century? Is 5m acres enough? It might also ask itself what this year's £2.4bn wood import bill will look like in 60, 150 or even 300 years.

Concern grows over council house sales

By ELAINE WILLIAMS

WIDESPREAD concern has followed Government proposals to give all council tenants the right to buy their own homes. The Rural Community Councils' Standing Conference is urging the Government to safeguard housing stocks in rural areas because of pressures on the market. The conference said there is far less council housing in the countryside, that private rented housing is disappearing. Also lower local wages, pressures from commuters and demands for second homes are forcing the price of rural houses up. The conference wants safeguards on re-sales such as limiting them to people living within an area of a maximum of 10 miles. It has called for a fairer share of the Government's Housing Investment Programme money - rural areas get only half the national average - because it feels that the housing authority still has an important part to play to protect local people. The National Housing and Town Planning Council has also shown some concern of the Government's "right to buy" proposals. It believes that inducements for council tenants to buy like the £100 option to purchase at a later date, but at a fixed price was "reminiscent of the seedier aspects of hire-purchase." This coupled with other "cut-price temptations," the National Housing and Town Planning Council believed would encourage financial over-ambition among council tenants.

Burton Group chairman will retire next year

By JOHN MAKINSON

MR. LADISLAS RICE is planning to retire as chairman of the Burton Group on January 1 next year. Under proposals which will be put to the board of the retail chain this week, Mr. Rice will be succeeded as chairman by the present chief executive, Mr. Cyril Spencer, but will remain on the board as non-executive vice-chairman. Mr. Spencer will hold the position of chief executive jointly with Mr. Ralph Halpern, the present deputy managing director. Mr. Halpern will be succeeded by Mr. Brian North, the group's finance director. The move was initiated by Mr. Rice himself and the reshuffle was agreed amicably, according to Mr. Gerry Slater, the group's secretary. Mr. Slater said it had always been Mr. Rice's intention to retire in January 1981. He had brought the decision forward by a year for personal reasons and because he believed the recovery of the Burton group was now established. Under Mr. Spencer, who took over as chief executive three years ago, the Burton Group has recovered from losses of £2.4m in 1976 to profits before tax of £7.6m last year.

Electricity up by 20%

By ELAINE WILLIAMS

ELECTRICITY PRICE rises of at least 20 per cent are expected next spring. Gas charges are also due to rise, by 30 per cent in two stages, the first next spring. The electricity increase will come on top of a rise of nearly 9 per cent announced last month. The electricity industry's provision budget figures show that even if the miners settle for a pay increase of about 20 per cent, and coal prices keep pace with inflation, price increases of 20 per cent, passed on to the consumer, will be necessary. Mr. David Howell, Energy Secretary, would have preferred to defer an increase of this size, or at least introduce it in stages. But the cost of this to the exchequer would be too large.

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Advertisement for TWA Airport Express. Includes images of boarding passes, a 'RESERVED' sign, and a person with luggage. Text describes the service: 'You only have to spend five minutes at the airport to see how crowded it gets these days. At certain times of the day you can see as many as 30 people queuing at every available check-in desk. But now TWA introduces Airport Express to cut these queues down to size. When you book your trip with your travel agent you can now request your boarding passes and seat numbers in advance. Not only for your outward flight but for all the TWA flights you have to make on a trip to the States - outward, connecting and return flights. So you don't have to queue for them at the airport. All you have to do is drop your baggage at the Airport Express desk and you're on your way through to the plane, to the exact seat you asked for. Smoking, non-smoking, aisle or window. ONE FAMILIAR AIRPORT SIGHT YOU'LL BE SEEING LESS OF. You're going to like us'.

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UK NEWS

Civil engineering orders show drop

BY ANDREW TAYLOR

CIVIL ENGINEERING companies in the UK have suffered a significant deterioration to their position, according to the latest quarterly workload survey carried out by the Federation of Civil Engineering Contractors.

The Federation said yesterday that its October survey shows that the industry had markedly fewer new orders compared with six and 12 months ago.

Of the 243 companies replying to the survey, 67 per cent

said that orders were either at the same level or below that of six months ago, and 51 per cent reported the same of a year ago.

More concerns had reported an increasingly high level of plant lying idle, as the "catch-up" period which followed the bad weather and industrial action of last winter had now worked its way through.

The market was declining, with clients offering smaller contracts, said the federation. Twelve per cent of construction companies replying to the survey said they had no civil engineering work on their books at all. These were predominantly among medium-sized companies.

Forward projections for civil engineering work had worsened significantly. There was less optimism on projections for new orders, already seen as a declining sector.

A substantial proportion of respondents now also expect repair and maintenance to decline. Previously, this had been regarded as a relatively stable sector. As a result of these changes, future employment prospects are expected to

worsen," the federation added. Almost half the companies replying expected new orders to fall in the next 12 months. Only 10 per cent expected new orders to increase. Companies anticipated a fall of 36 per cent in orders for repair and maintenance over the next year, and 58 per cent expected orders to maintain their current levels, but not exceed them.

However, London and the south-east have, according to the survey, continued to be the least affected by the recession, with an increase in order books as compared with six months ago.

more invitations to tender and an increase in the average size of contracts.

The north-east also appeared to be less affected than other regions, with an improved level of tenders, albeit it from a very low base.

East Anglia, the north-west, North Wales and Scotland appeared to have the worst decline, steepest in North Wales. In Scotland, it now appears that work associated with the offshore oil industry is no longer sufficient to check the underlying downward trend, says the federation.

Chamber plea for Dockland

By Elaine Williams

THE LONDON Chamber of Commerce and Industry has urged Mr. Michael Heseltine, Environment Secretary, to speed the setting up of the urban development corporation to encourage regeneration of London's dockland.

In a letter to Mr. Heseltine, the Chamber said it is anxious to see developments and regeneration promoted in the area. It has been concerned for several years at the slow rate of progress. It welcomed the concept of the urban development corporation as a means of overcoming problems which have proved intractable to existing authorities and of promoting the renewal of Docklands.

The chamber said the plea has been through all the necessary statutory consultative processes.

The letter also said it is time to abolish the Industrial Development Certificate system in the Dockland areas. This is to prevent time being wasted by officials of the new corporation having to argue the case for industrial development with the Industry Department.

"There are no grounds for hampering the work of the urban development corporation and deterring potential developers by retaining a system devised at a time of industrial expansion when the problem was congestion not dereliction."

No retail sales boom from tax rebates

BY DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

FEW CONSUMERS saved their tax rebates received during October, according to the latest Financial Times Survey of consumer confidence published today.

Consumers in the survey were asked in particular whether they had saved or spent their rebate. Some 44 per cent of the sample said they had spent their rebate, while 13 per cent said that it had been saved. However, 35 per cent of the total sample said that they had not received any rebate.

The results of this survey were broadly in line with those achieved in an early survey as to what consumers intended to do with their rebates.

However, the extra spending power made available in October was not generally reflected in retailers' sales. This sug-

gests that consumers spent their rebates either paying off previously incurred debts—which financed the pre-Budget spending spree—or in meeting higher bills, especially the delayed telephone bills.

Moreover, the tax rebates appeared to have done little to stimulate consumer confidence in the future of the economy. The November index of future confidence fell again from minus 33 per cent to reach minus 35 per cent, still much lower than during last winter's industrial disputes. The November survey found that 14 per cent of consumers expected conditions to improve—the same as last month—but 49 per cent (2 per cent more than last month) expected conditions to worsen.

In addition, the six-monthly index—which reflects the longer term trend—also fell sharply from minus 24 per cent to minus 32 per cent. This sharp fall was due to the General Election and pre-Budget euphoria no longer being included in the six-month period under review.

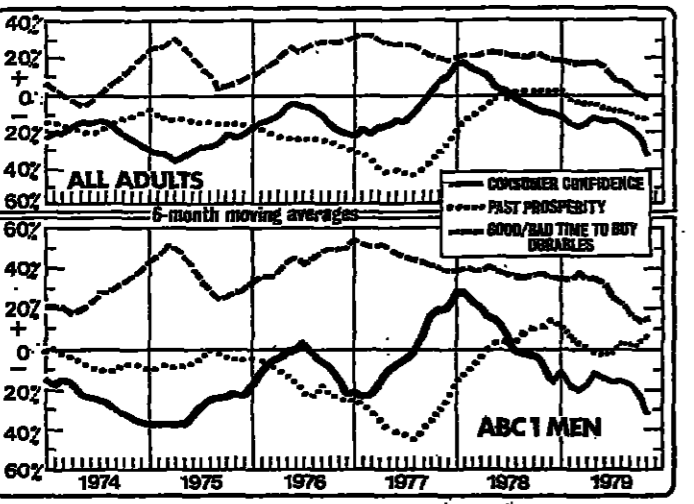
The main reason for pessimism, according to the survey, continued to be the effects of inflation which was mentioned by 38 per cent. The Conservative Government's policies were blamed by 26 per cent, while a fifth simply felt that the trend was "to get worse."

However, strikes appeared to diminish in importance as a cause for concern since they were given as a reason by only 10 per cent, compared with 26 per cent last month.

demand after the higher VAT imposed in the Budget. There is also a feeling among retailers that consumers are having a "final fling" before the recession begins to bite next year.

The unemployment index also showed an improvement, with the index falling from plus 37 per cent to plus 32 per cent. In November, some 44 per cent of the survey thought unemployment would increase, while 12 per cent thought it would decrease.

The Financial Times survey of consumer confidence was carried out between November 1 and 7 by the British Market Research Bureau on behalf of the Financial Times. A sample of 941 adults was interviewed.



Pessimism

The minority of optimists in the survey could do little more than base their optimism on the hope that "things must improve."


This was quoted by 57 per cent of the sample, up from 51 per cent last month. Just under a third—slightly less than last month—felt that the Conservative Government's policies were a cause for optimism.

Only 2 per cent of optimists thought that tax concessions were a suitable cause for hope.

Analysis of the survey by social sub-groups shows that the confidence of ABC1 men (professional and executive) increased, while all other sub-groups declined. The ABC1 index for men fell by six points to minus 27 per cent, although

Not deterred

Similarly, lack of confidence in the future is not deterring consumers from believing that now is a good time to buy consumer durables. The November "time to buy" index stood at plus 15 per cent, a rise of 4 per cent on last month. Some 43 per cent thought it a good time to buy, with 28 per cent believing it was not. This improvement had been expected following the depressed levels of consumer



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Coutts & Co. announce that their Base Rate will be increased from 15½% to 17% per annum on 19th November 1979 until further notice.


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Grindlays Bank Limited Interest Rates

Grindlays Bank Limited announce that their base rate for lending will change from 14% to 17% with effect from 19th November, 1979

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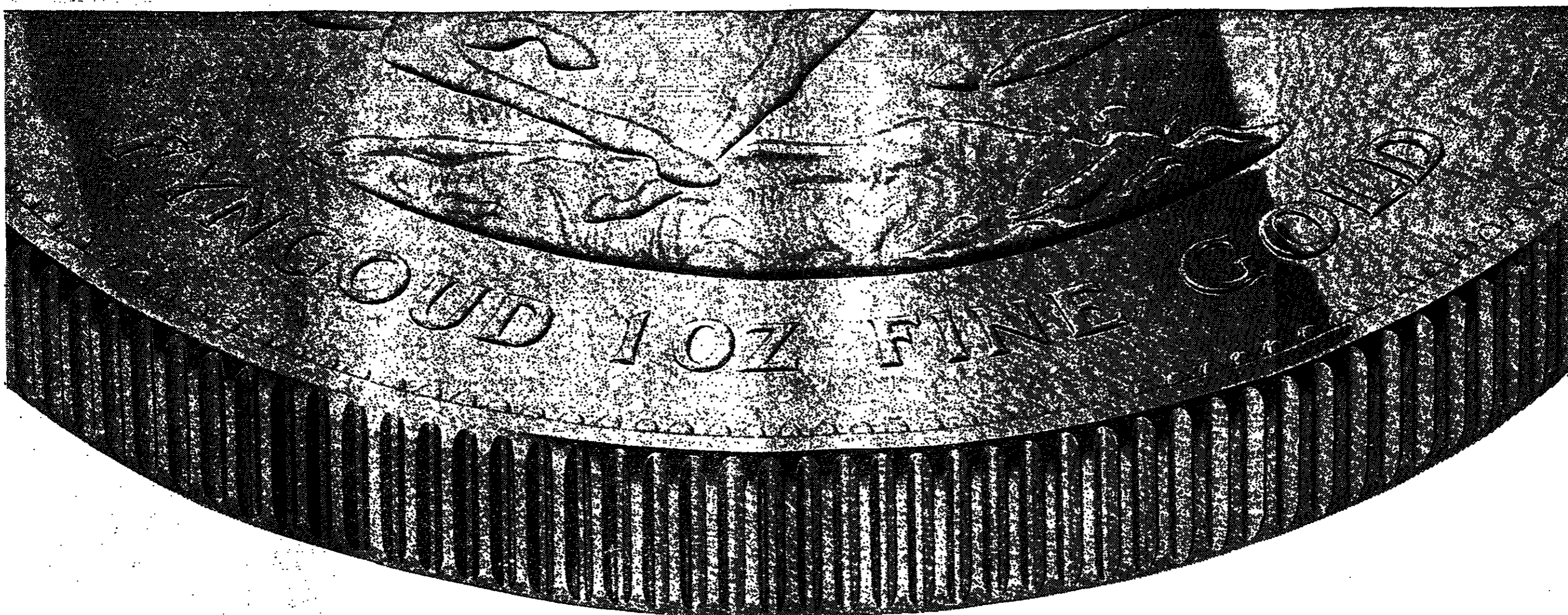
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UK NEWS

Pesticide use 'must stay at present level'

BY LISA WOOD

THE British Agrochemical Association does not accept the recommendation of the Royal Commission on Environmental Pollution that the use of pesticides should be reduced to a minimum consistent with efficient food production.

The association says such a policy would be inapplicable and efficient food production depended on the optimal use of pesticides.

In a formal response to the commission's seventh report, the association defended the amount of pesticides used at present to maintain crop yields.

It is disappointed that the Royal Commission did not recommend that further efforts be made to reduce the deliberate and accidental misuse of pesticides.

The commission said the continued use of pesticides was essential to maintain crop yields and therefore to keep down costs of agricultural products and the price of food to the consumer.

"Our concern is not with the question of whether pesticides

should be used, it is that they should be used wisely with a balanced assessment of risks and benefits."

The association acknowledges that resistance to insecticides and fungicides is of concern but says:

"We consider that the best strategy to cope with the problem of resistance includes the continuing development of new plant varieties, and the introduction of new products with different chemical structures coupled with the wider dissemination of good advice to growers on which treatments to use and how best to integrate crop protection measures in crop growing programmes."

Neither does it approve of the commission's view that parts of the Food and Drug Acts should be amended so that producers did not have to produce absolutely pest-free products.

According to the association sales of pesticides to the home and export markets in the first six months of this year amounted to £288.3m compared with £148.3m last year.

Building costs raised by delays

By Elaine Williams

PLANNING PERMISSION DELAYS are pushing up the cost of housing by 20 to 25 per cent according to Sir Maurice Laing, chairman of John Laing.

In an interview published in Property Monthly Review, Sir Maurice said that it can now take up to four years to build on a site where once it only took ten weeks from buying land to the start of building.

Sir Maurice was also concerned about Britain's infrastructure. He said: "Water, sewerage, lighting all communications, harbours, etc., used to be the best in the world at the turn of the century, and now its getting to be the worst in the western world."

Also Sir Maurice believed that Britain would have a worse time than many countries if the forecast world recession took place, and he thought that the property market would suffer with it.

He said: "The demand for commercial property is not going to be anywhere near as great as it has been in the last 20 years." However, he thought that big chain stores would continue the trend towards expansion in smaller centres of population, and towns of 20 to 30,000 will see a move from the smaller shopkeeper to the multiples."

BRITISH TRAVEL AGENTS' CONVENTION

Sun with gloomy prospects

BY ARTHUR SANDLES IN LOS ANGELES

ALL WEEKEND the British have been arriving. Now there are more than 2,000 delegates to the annual conference of the Association of British Travel Agents, their spouses, and assorted peripheral personnel who want to catch their attention or hear what is going on.

Every year as the British winter starts many in the travel industry fit off to foreign parts. Last year it was the Costa del Sol, next year it will be Florence. This time it is the sunny glamour of Southern California.

It is easy to dismiss it as unfashionable money washing, sunshine fiddling while London freezes. In fact that ABTA convention, which has as much sidelines entertainment as any other such gathering, is also the one occasion when members of one of the nation's biggest businesses get together.

Domestic and foreign tourism, both incoming and outgoing, has a turnover approaching £6bn a year.

This year's convention has an unwelcome edge. The gathering, which begins this morning, will be part celebration and part wake. This has been a reasonable year for tourism, given all the adverse factors; but just about every pointer suggests that next year is going to be a travel year that most in the industry will want to forget.

In ten years of attending

ABTA conventions I cannot recall a time when tour operators have been so willing to discuss how badly they are doing with their winter sunshine holidays and have been so nervous about prospects for the main selling season for the summer. Usually they talk bravely to try to panic their rivals.

The one bright spot in recent months, and the reason why British travel agents have gathered in Los Angeles, is the remarkable growth of traffic from Britain to the U.S. As the number of Americans coming to Europe has fallen so the number of Europeans, and Britons in particular going to America has leapt.

Some suggest that 1980 will be the year in which as many Britons go to the U.S. as Americans come to Britain.

America's gain has been Spain's loss with the past summer seeing a remarkable dip in its popularity.

Tour operators have shown their irritation, and reflected consumer demand by finding as many alternatives to the traditional Spanish locations as possible, but even in hard economic times such as these few other areas have the bed capacity of the Spanish resorts.

But when they are not looking back over the past summer and looking nervously at the prospects for the early 1980s the

delegates will concentrate on the perhaps contradictory pressures of oil crises and low air fares on future travel trends. Nothing worries the travel market more than talk of escalating fuel prices. The industry dislikes surcharges almost as much as passengers do. Unexpected fuel shortages cause delays and additional expense which the industry, with its narrow margins (a successful tour operator makes about £10 profit per passenger) is ill-equipped to deal with.

Unfortunately for the operators the market is so price-sensitive and so overburdened with capacity that talk of increasing these margins through basic price rises is unrealistic.

The words "low air fares" spark off a complex set of reactions. Hoteliers and national tourist organisations are delighted by the prospect because it means more traffic, scheduled airlines are half in favour and half horrified that their traditional structured system of charges is being disrupted by rebels from the inside and intruders from without; tour operators are concerned that their own protected world of charter flights is about to be invaded; and airline entrepreneurs like Sir Freddie Laker, who is here this week and is being stirred up.

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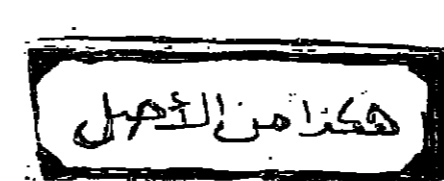
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UK NEWS—LABOUR

Union to discuss next move in BBC dispute

BY GARETH GRIFFITHS, LABOUR STAFF

THE ASSOCIATION of Broadcasting Staff national executive will meet today to discuss the 14,000 strong union's next move in the mounting dispute with the BBC over regrading proposals.

At the weekend 18 technical managers who run studio crews were instructed to go on a 24-hour strike. They were joined by 100 crew and studio staff who refused to work with the staff BBC management had intended should cover for the striking managers.

The BBC has said it regards the 100 staff as having broken their contracts and no longer on the pay roll. It is refusing to accept the technical managers back unless they undertake to work normally. The BBC also wants assurances from the ABS

which the union has refused to give.

Mr. Paddy Leech, ABS assistant general secretary, said the union would not be provoked by the BBC's attitude. He did not expect further industrial action until after today's executive meeting. The ABS is committed to supporting staff affected by a regrading freeze which sparked the dispute on Wednesday night.

Restructuring

The BBC wants to replace its present regrading system, which it says is on the verge of collapse, with a new pay structure to be introduced by April 1980. Eventually it would cover 16,000 BBC staff. The ABS has agreed to restructuring, but is angry at

the BBC's decision to suspend staff regradings from November 5.

There are about 1,000 regrading claims outstanding. The union says it wants the suspension lifted and is making industrial action by staff affected official.

Programmes already hit by the dispute include sports programmes, the *Times* World contest, the children's programme *Multi Coloured Swapshop*, and *Grandstand*.

Advisory Conciliation and Arbitration Service officials have to arrange a meeting with both sides this week. But on Friday night, after separate talks with the BBC and ABS, they said there seemed little scope for conciliation.

Shotton action in balance

BY ROBIN REEVES

OFFICIALS of trade unions at the British Steel Corporation's Shotton Works, North Wales, will meet this afternoon to decide whether to continue the fight against BSC's plan to end its iron and steel making or negotiate severance terms.

The outcome was described yesterday as finely balanced. The Transport and General Workers' Union, the second largest among Shotton's 10,500 workforce, is committed to continuing the fight.

But a mass meeting of the four craft unions at Shotton has voted two to one to negotiate a severance agreement. So too have the blast furnacement.

Representatives of the largest union, the Iron and Steel Trades Confederation, which has more than 6,000 members, will meet this morning to hear the outcome of branch discussions.

The membership is split with blue collar branches tending to opt for redundancy and white collar branches to continue fighting.

A Nottingham meeting of Conservative trade unionists urged the Government to direct BSC to examine ways to maintain some steel making at Shotton and the possibility of making it an alternative source to BSC for sheet steel.

Basnett seeks range of views in Labour inquiry

BY OUR LABOUR STAFF

THE COMMISSION of inquiry into the way the Labour Party is run should consult the widest possible range of opinions in the party, Mr. David Basnett, general secretary of the General and Municipal Workers' union and chairman of Trade Unionists for a Labour Victory, said yesterday.

Mr. Basnett, one of the five

trade union representatives on the inquiry, said the TULV would support procedures for the commission enabling it to ensure there would be the widest possible consultations within the party.

It would look at membership, finances, electoral organisation, political education and campaigning activities at all levels.

Bid to improve training

THE MANPOWER Services Commission is launching a voluntary registration scheme for courses for industrial training staff.

It is part of a three-point plan to improve standards of further and higher education, private organisations and training centres supported by the Industrial Training Boards. The scheme covers courses on the organisation of managing and on training advice.

CONTRACTS

Lovell (Midland) awarded £2m industrial project

Y. J. LOVELL (MIDLAND), a Lovell Construction company, has been awarded a contract worth over £2m for redevelopment of a 150,000 sq ft industrial site at Greenford, Middlesex, for Percy Bilton. Work includes demolition of structures on the site, and construction of 14 industrial and warehouse units in five blocks. Completion is scheduled for May 1981.

NOLTON COMMUNICATIONS, Cheshunt, has an order worth about £130,000 from the North West Water Authority for 279 Nova AM/FM radios, and 76 Sabre AM radios. The equipment will be used to control the Authority's fleet of service and installation vehicles.

H. H. ROBERTSON (UK), export division, has won orders worth £1.6m for building clad-

ding systems for three construction projects in Saudi Arabia. Largest order, worth £1m, is for a government installation using 6,000 sq metres of protected roof and wall cladding and 10,000 sq metres of the company's architectural wall system.

Britannia Building Society has ordered an ICL 2972 computer system, valued at nearly £2m, from INTERNATIONAL COMPUTERS. The 2972 will be installed mid-1980 when the Britannia's new computer block has been built at Leek, Staffs. It is expected to be fully operational in January 1981.

Clansman VHF radio communications equipment, worth £800,000, made by RACAL-TACTICOM, is to be supplied to the Royal Netherlands Navy, for use by

the Marines. The order is for manpack radios and includes a mounting frame which enables rapid changeover from vehicle to manpack to vehicle roles.

An order valued at £540,000 has been won in the Middle East by OCS (EXPORT), London, a company formed by the Office Cleaning Services Group. Under the order, R. M. Moody, Bridgwater, Somerset, shirt manufacturer within the OCS Group, will be producing 90,000 combat shirts.

JOHNSON RADLEY, mould and casting division of United Glass, has won a contract to supply complete mould equipment for a new glass container factory shortly to become operational in Panama. Vidrios Panameños SA is based near Panama City and will manufacture a variety of

glass containers. Johnson Radley is producing 60 different sets of moulds to cope with its output.

BAT (UK and Export) has ordered a BURROUGHS B 6800 large-scale computer system to cater for the increased workload following the launch of its State Express 555 cigarettes. Uni-BAT has established its long-term hardware/software strategy, the £750,000 system will be installed on a rental basis at its headquarters in Woking.

GEC MECHANICAL HANDLING has an order worth £320,000 for the design and supply of a travelling shiploader to handle bulk salt at 600 tonnes per hour. The machine will operate on a jetty to be built alongside Manchester Ship Canal at the Weston Point Works, Runcorn, Cheshire.



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The impact of microprocessors is already beginning to affect almost every industrial company. The development, manufacture and after-sales service of products incorporating microprocessors require new approaches to organisation and investment.

A new home study package has been specially developed by the Open University to provide management in industry with a thorough understanding of how a microprocessor works, and an appreciation of the major implications for business development. The course is entitled, Microprocessors and Product Development: A course for Industry.

The course content

The complete course comprises a ready-to-use microprocessor, an instruction manual and six detailed booklets. You can learn in your own time and at your own pace, or you can use the material to organise an in-house scheme of your own.

The first booklet takes you through the principal features of a microprocessor, and the role of hardware and software.

Practical exercises enable you to become familiar with programming.

The remaining booklets cover choosing a microprocessor for your application, the development and production of a microprocessor-based product, and the financial and personnel implications of the new technology. Specialist subjects such as reliability, training and estimating productivity are also covered.

Inclusive of all work materials and a microprocessor, the course, which will become available later in the year, will cost £120.

To receive further details of the course, just complete and post the coupon.

Please send further details of the course. Microprocessors and Product Development: A course for Industry.

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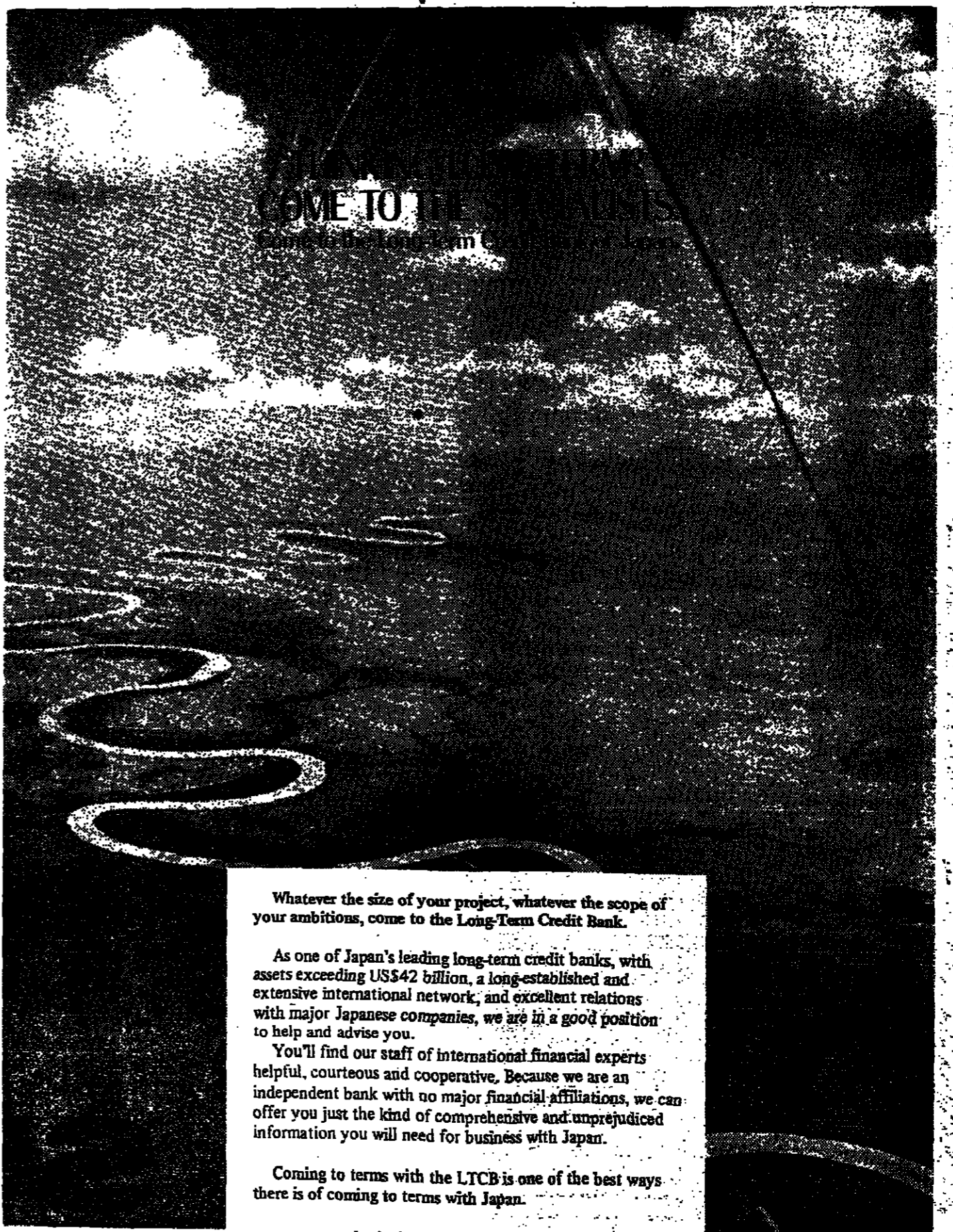
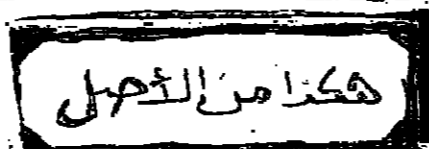
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Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

TEXTILES

Dyeing process demands less energy

WET PROCESSING of textiles is one of the most energy-consuming treatments in the entire industry. In a survey recently carried out in Britain it was revealed, as expected, that the greatest savings over the next few years are likely to be made in the reduction of the amount of energy required to heat up water, to cool it, to apply it to textiles only to remove it subsequently.

Dielectric heating has a great deal to offer in that it only consumes electricity when it is heating water. It requires no warm-up period and it is precise in its application.

This is a system that is now being used for dye fixation and bleaching of fibres during processing.

A completely new machine has recently been designed and built by Smith Textile Machinery (Goodlad Street, Woodford, Bury, EL8 1SG, Tel: 081 764 1665) and which is described as the "Fastran" electronic dye fixation and bleaching machine.

Undyed fibres are fed through a pad in which dye liquor is pressed into them via a nip roller arrangement. The fibre

with the unfixed dyestuff—or it could be a bleach—is next fed via a hopper to a piston feed section which forces the fibre continuously through a tube which carries the impregnated mass through the radio frequency field where the water is rapidly raised to the boil and so fixes the dyestuff within the fibres.

The operating temperature within the mass of moist fibre is somewhat above 100 degrees C and this is an aid to fixing. After this an aid to fixing is given a normal wash-off followed by drying.

Advantages of the new Fastran EDF process are a rapid and more even heating throughout the mass of fibres, excellent dye penetration and fixation in a minimum of time, optimum fibre condition after dyeing or bleaching and substantial savings in dyestuffs.

The process requires a minimum of labour, reduces the effluent because less water is used initially, saves on space requirements in the dyehouse, dyes very rapidly and offers an effective means of reducing the energy required in dyeing.

RESEARCH

Test facility expansion

BRITISH Aerospace Dynamics Group has announced that it is investing £1m in a major re-equipment and expansion programme in its Environmental Engineering Department at Stevenage, Herts.

When completed in 1980, it will provide one of the most up-to-date and comprehensive testing facilities in the UK.

The existing capability of the department is already considerable and products can be tested under a full range of climatic and vibration conditions.

Typical climatic environments that can be simulated in the various test chambers are: high and low temperatures at either high or low humidity; high altitude; rain and fine mist;

sand and dust; salt corrosion; exposure to sunlight; fungal growth; temperature and mechanical shock; and mechanical vibration covering a range of frequencies with the option of simultaneous climatic conditions.

The department was established 25 years ago to provide environmental test facilities for the organisation's own use, especially the testing of guided weapons and their associated ground support equipment. It offers its services commercially to industry as a Test House, testing a wide variety of products ranging from motor cars and electronic instrumentation to domestic products and packaging.

DATA PROCESSING

Aids the draughtsman

INTERACTIVE draughting facilities for the creation and scheduling of circuit diagrams, diagrams and for the layout of printed circuit boards is available for use with Tektronix 4081 interactive graphics system.

Cablos, designates the software package, for use by engineers. No knowledge of computers or computer programs is required for its operation.

The package provides virtually unlimited capacity for creating drawings and symbols libraries. Sketches may be captured and edited by digitising from menus of component symbols and line styles, and instantaneous changes can be made to the form of drawing presentation.

Developed by Cambridge Interactive Systems, Cablos is

written in Fortran and is readily adaptable to cabling layouts, piping and instrumentation diagrams and room and pattern layouts.

Autoprod also announced a program for the creation and manipulation of three-dimensional objects with hidden line removal.

It runs on the 4081. Developed by Autoprod Computer Graphics of UK, the software eliminates the time-consuming manual effort of generating perspective drawings. The object under design is defined only once and as many different views required are generated in minutes as opposed to days of manual draughting.

Tektronix UK, Beaverton House, PoB 69, Harpenden, Herts. Harpenden GU14.

Retrieving the facts

AGRICULTURAL division of ICI has concluded an agreement with Service in Informatics and Analysis (SIA) under which the latter will market a computer bureau service based on Assasin, a text-retrieval package.

Assasin, extensively employed within ICI, is also used by the Greater London Council, the Central Electricity Generating Board, Tube Investment Group Services and various research associations.

Assasin system is now installed on SIA's CDC machines and is available on the Cyberpower Service throughout the

UK and in Holland, France and the U.S. via the SIA network.

SIA, owned by CISE (Compagnie Internationale de Services en Informatique)—Western Europe's largest independent computer network services group.

Assasin, extensively employed within ICI, is also used by the Greater London Council, the Central Electricity Generating Board, Tube Investment Group Services and various research associations.

PROCESSING

Food processing made more efficient

SIGNIFICANT labour savings and reductions in product loss and spoilage are promised to processors of loose foodstuffs—frozen vegetables, snack and pet foods—who take advantage of a new development from Uesco Vibrators, conveying and vibrating machinery builders.

"Storeveyor" eliminates the temporary storage problems which stem unavoidably from the different volumes of output from processing and packaging plant.

Loose foods are processed—cooked, frozen, cut, trimmed, chipped, etc.—continuously and at a fixed rate of output. Packaging machinery which must fill

and pack bags or cartons to precise weight specifications, cannot match this rate with identical continuity. During any given operational period there are times when the packing plant will outstrip in production the processing, and vice versa. When this occurs, temporary storage facilities must be available to handle the processed bulk foodstuffs.

Conventionally, dump bins are used to take up the slack, and hence the waste of human resources—needed for man-handling such bins—and waste of product through the spillage, breakage and aging caused by such manhandling, are inevitably high.

Storeveyor ends waste by

replacing dump bins with a conveying system which delivers the product direct from processing to packing, storing as required.

A vibrator discharges product into polypropylene buckets, carried in a continuous belt by a Tsubaki conveyor chain, and designed to overlap at the filling point to ensure no spillage. They take product to a hopper with sufficient capacity to store the differential between processing and packing.

To ensure that the hopper does not discharge the product to the packing input conveyor—via another vibrator—in the wrong sequence or at an incorrect speed, Uesco has devised a novel loading system. The

bucket chain is arranged so that it travels the length of the hopper, tipping its load only when activated by a sensing lever designed to roam back and forth "seeking" the back of the product already held in the hopper.

Thus, irrespective of the packing plant's output, new products can only be stacked in sequence and precisely behind the last batch or bucket-full. A continuous operation is thus ensured.

Uesco Vibrators, Gamlingay, Huntingdonshire. Details of Tsubaki fatigue-resistant roller chain products from Belvoir Industrial Factors, FREEPOST, Bingham, Nottingham NG13 5BR.

COMMUNICATION

Messages displayed in vehicle

MUCH IN the favour of a vehicle-borne displayed-message communication terminal from Nilton Communications is the fact that it is available off the shelf, ready to operate without further costly development work.

Known as the MCT-10, it is made by Kustom Electronics of Chanute, Kansas, and consists essentially of an ASCII keyboard and an alpha-numeric display which makes use of a solid state dot matrix panel presenting 224 characters about 0.5 inch high in seven lines of text.

Data rate of the machine is 1300 bits/sec and it employs audio phase shift keying in the 300 to 3000 Hz band; it can thus modulate a vehicle radio as voice signals would but with direct connection.

It also has two character memories, one of which can be accumulating an incoming message while the other is building up a message from the keyboard for later transmission from the vehicle. One advantage is that a message can be received when there is no one in the vehicle.

In addition there are special function keys so that a number of standard messages can be keyed out of the memory to cover routine acknowledgement, emergencies and frequently repeated statements.

More from Fieldings Road, Cheshunt, Herts EN8 9TL (Waltham Cross 33555).

INSTRUMENTS

Meters from Vienna

TWO OF THE latest multi-meters, made by Norma of Vienna, are available from Crocico, Hampton Road, Croydon, CR9 2RU (01-884 4025), each having easily read digital displays and the ruggedness to be expected from multimeters for field use.

Normatest D 1210 measures only 160 x 100 x 50 mm, has an 18 mm liquid crystal display, and offers 15 ranges covering AC and DC voltage, resistance, and AC/DC current. Semiconductor testing is available on the resistance ranges. Two meter is powered by alkali-

manganese cells and an indicator shows when the voltage is too low. Optional accessories include high voltage and frequency probes.

The other instrument, D 2300RC, has a 9 mm LED display and a relatively large selector wheel which allows single-handed switching to any of the 13 ranges. Making use of integrated circuits and thin film technology, the instrument can measure DC voltage, resistance from 20 ohms to 20 megohms, and capacitance from 2 nanofarads to 20 microfarads.

Models are available for both mains and battery operation.

IN THE OFFICE

New microfilm reader

KNOWN AS Copex LR16, the latest 16 mm microfilm reader from Agfa-Gevaert takes film reels mounted into Copex or other NMA style magazines.

Motors drive gives automatic threading when the magazine is loaded after which there is a choice between low speed, variable between three and 30 mm/sec, and high speed of 2 millimetres/sec in either direction.

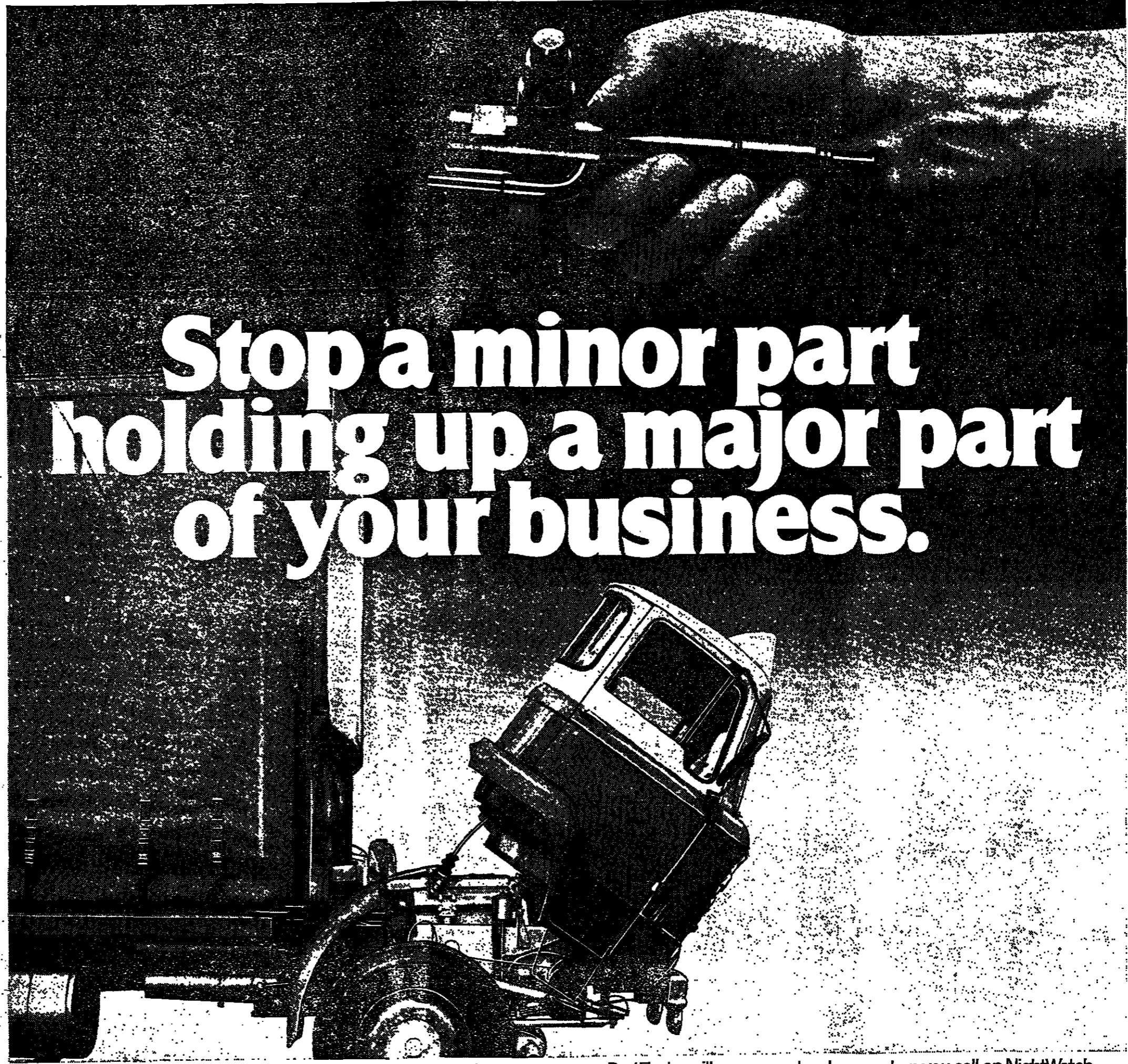
A standard reel takes 15 seconds to wind through and an integral storage space is included in the design so that operators can keep up to ten magazines available.

The 12 volt 100 watt lamp is convection cooled and is easily changed after its life of about 2,000 hours is complete.

A seven digit display indicates the length of film travel at any point.

To accommodate all film modes, the unit is equipped with a prism that may be rotated to rectify the image. Viewing area is 365 x 380 mm, and the machine can be fitted with lens for magnifications of 21, 36 or 42. Dimensions are 380 x 650 x 570 mm, weight 20 kg.

More from 27 Great West Road, Brentford, Middx. (01-560 2131).



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ELECTRONICS

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OFFERED BY BFI Electronics is a portable high performance microprocessor system analyser, a diagnostic instrument that uses advanced interactive testing techniques to aid product development, production testing, field service or personnel. Unlike logic analysers, the new unit provides interactive access to the micro's internal registers and to all system memory and input-output ports. It can be used to examine or modify the contents of the program counter, the stack pointer or any register. Known as AQ8080Z, the unit is suitable for all Z80A, 8080A or 8085A systems. Unlike emulators, the analyser does not require the removal of the chip itself from the board; it can be soldered in. The user can test his complete system intact while eliminating the possibility of damage to either chip or socket. More from 518, Walton Road, West Molesey, Surrey, KT9 0QF (01-341 4066).

Building and Civil Engineering

£8½m contracts for Gleeson

PRIDE OF place in £8½m-worth of new work won by companies in the Gleeson Group goes to a coal winning task at Hollybank, Walsall valued at £4m. For the NCE, the company will recover 270,000 tonnes of coal, as well as build foundations and roads for a coal preparation plant.

Herne Bay, Eastcliffe, Phase II is the designation of a sea defence scheme the company is to undertake at a cost of £800,000 for Canterbury City Council.

Ten groyves, aprons, concrete access way and wave walls will

be built over the next 12 months.

For Severn Trent Water Authority, a reinforced concrete reservoir will be built at Enderby, Yorkshire for a price of £380,000.

Work on another reservoir, worth £300,000 is for Central Regional Council, Lennox Town, Dunbart. It is for an extension to the Muirhead Reservoir in the form of a covered storage area.

Last of this group of five contracts to Gleeson Civil Engineering is a £145,000 job for the CEGB to extend existing offices

at Rugeley B.

A major task for Gleeson (Sheffield) is the £2,965,772-worth of work in Rotherham on the Civic Centre Phase II scheme. This is a five-storey office development and basement of about 7,000 square metres.

Site works, drainage and services have been included and Rotherham Metropolitan Borough Council expects completion in about 112 weeks.

The same affiliate has a £125,250 award from British Steel for a new ingot casting pit at Riverdon Works, Sheffield.

Two jobs in Kenya for Mowlem

BIGGEST CONTRACT in a group worth altogether £8.3m, awarded to Mowlem Construction Company of Nairobi, is a job worth £4m to protect the Tana River from flooding. It comes from the Kenya Power Company and takes account of the fact that the level of the Tana River will rise with the construction of the Masinga Dam and the formation of the Upper Reservoir.

A mix of work for Wimpey

LUTON OFFICE of Wimpey has taken a job worth over £2.7m from General Motors for the construction of a central office block at Brickhill Street, Milton Keynes.

The three-floor structure will provide about 7,000 sq metres of new accommodation and it will be built in situ reinforced concrete enclosed in brickwork.

A £3m contract for the Nottingham office of Wimpey is from Peterborough Development Corporation for 210 dwellings at Warrington.

Construction has started of a mixture of houses, flats and bungalows in timber frame design with components supplied under the current Midland Housing Centre programme. In general, the cladding is in brickwork and/or timber.

Peterlee Development Corporation, Co. Durham, has awarded a further contract for the construction of advanced factories on the south west industrial estate at Peterlee. The work is valued at about £500,000 and comprises the erection of seven workshop units and 12 starter units in four separate blocks.

Newcastle office of Wimpey has won a £487,000 contract for the construction of facilities at Waverley Vineyard, Feltham Industrial Estate, Tyne and Wear, from Scottish and Newcastle Breweries. It includes the construction of a security area, open plan offices, caged stores, freighter entrance, and modification of ramps for dock levelers.

An exhibition of low-energy

houses has been set up on a private development estate at Selsdon, near Croydon, Surrey, by Wimpey Laboratories.

Houses similar in concept would reduce fuel consumption by about 50 per cent, because of the inclusion of several features which were non-standard when the houses were designed, says the company.

These include increased loft insulation, draught-stripped doors and windows, and low output heating systems geared to the reduced demand. Such features as insulated ground floor slabs are now incorporated in Wimpey basic house specifications and other benefits, like cavity-filled walls, are being offered to purchasers as optional extras.

Irrigation projects

PROJECTS IN which Sir M. MacDonald and Partners are involved include a comprehensive feasibility study for irrigation-based development schemes in north-west Bangladesh and the Northern Plains irrigation scheme in Mauritius.

The Mauritius scheme is designed to distribute additional water from the Nicoliers reservoir for irrigation of an area of 1,800 hectares in the north-west of the island.

Three contracts have been awarded. One worth £825,000 has gone to Mauritius Building Company and another worth

about £2.5m to Taylor Smith and Co. Both of these were awarded by the Central Water Authority Mauritius.

The third contract, worth £1.1m, has gone also to Taylor Smith. This was awarded by Irrigation Authority Mauritius.

In Bangladesh, MacDonald is to carry out a feasibility study for irrigation-oriented development schemes for three areas in the north-west. This is under an Asian Development Bank technical assistance programme.

The 2,100 square kilometre area to be covered by the study are about 320 km from Dacca.

New housing estate

FIRST PHASE of a new housing development on the outskirts of Faversham, in Kent, is to be built under a contract worth nearly £2.4m awarded to John Laing Construction's southern region.

In the first phase, 22 two-storey houses and 59 flats in two-storey blocks, plus one shop unit, will be built on a 12 acre site at Eysing Wood Road, north east of the town centre, for the Moat Housing Society which will eventually provide a total of 360 homes on the site.

Homes are timber-framed and designed by the National Building Agency for the Society. The houses will have tiled, pitched roofs and cladding of facing brick and concrete tiles.

Work starts soon and is due for completion by 1981.

Architectural and engineering services are being provided by the National Building Agency and quantity surveyor is I. N. MacLaren and Associates.

Industrial estate in Essex

JARTAY DEVELOPMENTS has secured design and construction awards for phase 3 on the Essex County Council's industrial estate at South Woodham Ferrers, with a total investment value of £1.5m. Construction is due to start at once and comprises 5,220 square metres of mixed sized units. Completion is for September next year.

In parallel with this project, the company has begun site construction work on the next phase (1a) on its own trading estate at Thelwall Lane, Warrington. Development has been the subject of a Forward Sale Investment to the Northern Foods Pension Trustees, total value of the purchase being £245,000.

Marshall gets over £3m

INDUSTRIAL and commercial contracts recently awarded to Marshall Construction Group, Eiland, total over £3m.

A design and build award for the new office and laboratory complex at Holywell Green, Stamford, for Hoechst UK, is worth more than £1m. This will provide 35,000 square feet of high quality accommodation to bring together the research and development departments, and the sales and administration divisions, to form a new northern regional centre for Hoechst.

The two-storey structure will have a pre-cast concrete frame and be clad externally with stone-coloured exposed aggregate panels and have anodised aluminium door and window frames. The site will be completed with service roads, car parking areas and extensive landscaping.

Work has just started on two

Three tasks for Monk

CHESHIRE, BERKSHIRE and North Yorkshire are three counties in which civil engineering contracts have been awarded to A. Monk and Company, totalling £1,261,000.

Downstream of Runcorn Docks, a £179,762 contract has been awarded by Manchester Ship Canal Company for constructing a mass concrete wall forming a closure of Western Mersey Lock.

Nearby, at Frodsham, further work for M.S.C. Company, valued at £200,000 is for raising the embankment of No. 5 deposit ground.

In Reading, Wimpey Construction (UK) has accepted a £354,950 tender for the foundations, sub-structure and floor slab to a Digital Equipment Company office. Consulting engineers are Arup Associates.

At Selby, two projects totaling £226,294 have begun at Whitmoor comprising site roads, stockyard, explosive store, car park and services distribution for the National Coal Board. Consulting engineers are W. S. Atkins and Partners. Also at Whitmoor, Monk is to carry out civil engineering works to electrical ducts, drainage and walkway ducts for Thyssen (Great Britain).

£7½m naval base work

IMPROVEMENTS TO a jetty and new buildings at the naval base, Portsmouth, are to be undertaken by Bovis Civil Engineering under a £7½m contract awarded by the Property Services Agency.

Work on the jetty entails converting four wharves into a single mooring berth, 270 metres long. Steel tubular piles, 500 and 600 mm in diameter and up to 33 metres long, will be driven into the seabed to support a 600 mm deep, reinforced concrete slab deck of 13,000 square metres.

A two storey office block, single storey workshop, stores and diesel storage tanks will be built on the shore end of the wharf, supported on in-situ concrete piles of 1,200 mm diameter, sunk to a depth of 20 metres.

Bovis Construction has work worth about £1m awarded by the Dickinson Robinson

Group to extend production facilities at the latter's thermoformed plastics packaging factory in Station Road, Yate, Bristol.

Work includes construction of new access road, car parking, landscaping, and the diversion of existing services.

£3m worth to B. B. Kirk

TOTAL VALUE of contracts recently awarded to B. B. Kirk (Construction), member of the Charles Hill of Bristol Group, is over £3m.

Largest job is a new department store for the West Yorkshire Co-operative Society at Skipton, valued at nearly £1.5m.

Other building work includes a post-graduate medical education centre at Halifax General Hospital for the Yorkshire Regional Health Authority costing £241,000; new offices and alterations to existing premises for Vokes, Burnley, worth £200,000; and a further factory for E.L.E.C. at Clitheroe, for £130,000.

Civil engineering work includes the completion of water treatment works for Harlow Hill, Harrogate, worth £640,000, for the Yorkshire Water Authority, north central division; two small contracts for the North West Water Authority, Pennine division at Whitworth and Westhoughton; Lancashire, totalling £294,000; and pipeline compounds for ICI in Yorkshire and Lancashire valued at £75,000.

Preparing the ground

CENTRAL LANCASHIRE Development Corporation has awarded a £399,320 contract to Kennedy Civil Engineering, Wythenshawe, Manchester, for roadworks sewers and a bridge across the River Lostock, to prepare the way for housing and industry in parkland and other open spaces.

New housing is planned for about 3½ acres, and a further 2½ acres are earmarked for light and general industry and warehousing.

South Ribbles Borough Council, assisted by the Corporation, is already carrying out housing and environmental improvement projects in the Ward Street area

Design and build projects

MECHANICAL CONSTRUCTION contract for the new benzole refinery for British Steel Corporation (Chemicals) at Port Clarence Works, Middlesbrough, Cleveland, calls for £2m worth of pipework which is to be supplied by Capper Service Company (Nottingham).

Orders have been placed by Redpath Dorman Long (Contracting) and the work consists of the installation of some 50,000 metres of carbon and stainless steel service and process pipework and associated mechanical equipment.

Pipework worth £2m

At York, work has started on two other major design and build projects: a one-year £765,000 scheme to carry out alterations to storage premises of confectioner Rowntree Mackintosh; and a £1m warehouse extension for printer Ben Johnson and Co.

Work is being completed on another Rowntree project at Fawdon, where Shepherd has been responsible for a new lorry dock and rail bay which will take the new British Rail Super-vans.

Base Rate

BANK OF CREDIT AND COMMERCE INTERNATIONAL S.A. announces that from 17th November 1979 its base rate is changed from 15½% to 17% p.a.

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Senders can subscribe to CDF at the pre-publication cost of £30 p.a. Please write or phone for further information to: Red CDF, 4 Aldgate Edge Place, London W14 6BT Tel: 01-403 4587

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Pick up the facts on Merseyside

IN BRIEF

- Marchesi Holdings has won a £450,000 contract for the sale of five luxury bungalows to Murray Clayton for erection in Leyba.
- Bison Concrete is supplying and erecting a precast concrete frame and floors for a pathology laboratory at North Middlesex Hospital, Edmonton, North London, to a value of £136,944, for North-East Thames regional health authority.
- A £100,000 contract for the construction of a new livestock building on the East of England showground at Peterborough has been awarded to English Bros., timber company of Wisbech, Cambs.
- Work has started on a 2,500 sq metre single-storey factory and a two-storey office block in the Grange Employment area of Warrington under a £618,000 contract awarded to Farrow Construction for BICC.
- One-day course, "Building on Shrinkable Clay" has been organised by the Brick Development Association for the eastern region of RIBA at Churchill College, Cambridge, on Tuesday, December 11. Details from BDA, Woodside House, Winkfield, Windsor (034 47 5651).
- A contract valued at around £1m to refurbish part of Suffolk House at Laurence Pountney Hill in the City of London has been awarded to: Holloway White Allom—a member of the John Laing Group—by Midland Bank. Work has started with completion expected by July 1980.

What do you know about Merseyside? Or think you know? Just how inviting are the financial incentives and are they available to Service Industries as well as manufacturers?

What special help can Merseyside offer small businesses? What about labour relations on Merseyside?

And what about Merseyside as a place to live? You owe it to yourself to find out the facts of life on Merseyside. Pick up the phone and ask for The Industrial Liaison Service; they'll be only too pleased to send you our pack of brochures.

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Credit to MERSEDO (Merseyside County Economic Development Office) The Leazes House, The Leazes Road, Liverpool, L22 1PL.

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Offices in London

WORKING £4.5M a contract has been awarded to Norwest House, southern region, by European Parties for the demolition of existing premises and construction of a six-storey air-conditioned office building with basement and sub-basement at Crosswell, London, EC3.

Demolition work is now completed and work has just started on the construction.

Architect is Joseph and Partners; quantity surveyor Norwell and Partners; consulting structural engineers, Eric Griffiths and Associates; and building services engineer Messerve Associates.

Completion of the project is due on March 1, 1982.

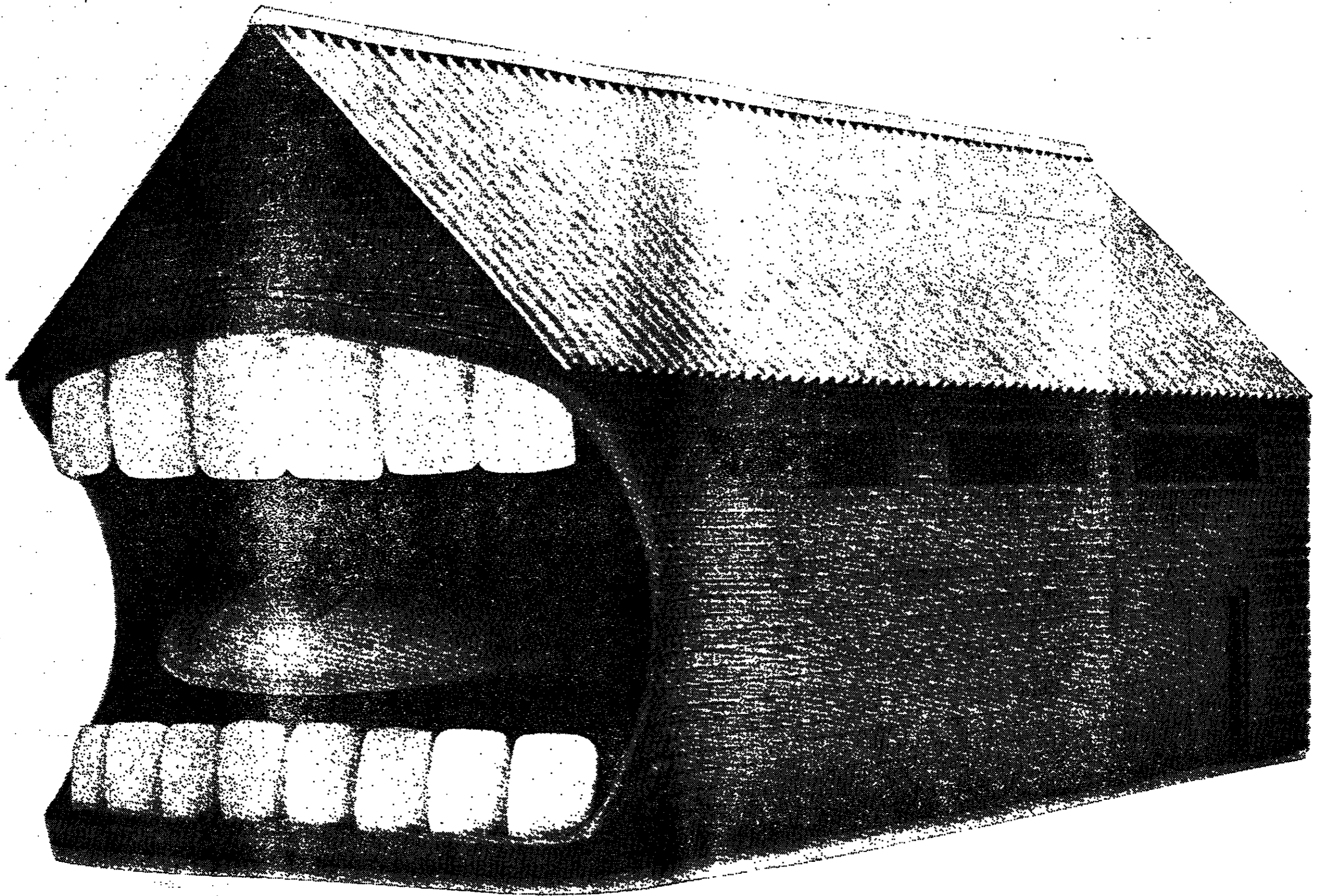
Furniture warehouse

BUILDING WORK to about £2m has been secured by J. F. Finnegan for a large depot complex at Northampton for MFI Furniture Group.

Site work is already under way and involves the laying of over 1m sq ft of concrete (more than 23 acres) of which 610,000 sq ft will be under cover with brick faced perimeter walls. Completion is required quickly, the contract period being compressed into 42 weeks—said to be a remarkably short time for such areas of concrete and building.

When completed the complex will provide the central warehouse for MFI, a leading retailer in the UK of self assembly furniture. Also included in the completed scheme will be MFI's largest UK showroom, covering 15,000 sq ft, together with offices, a print studio, quality control and spare parts store.

هكذا من العمل



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COMPANY NOTICES

GERMAN GOVERNMENT INTERNATIONAL 5 1/2% LOAN 1980 (YOUNG LOAN) CONVERSION BONDS

As a result of the entry into force on 1st April 1978 of the second amendment to the Articles of Agreement of the International Monetary Fund...

BRASILVEST S.A. SOCIEDADE DE INVESTIMENTO

NOTICE IS HEREBY GIVEN that the Administrative Council of the Company has resolved on the recommendation of the Board of Directors...

INSURANCE

No quid pro quo for transport bill

BY OUR INSURANCE CORRESPONDENT

IN THE British motor insurance market, which now counts its total premium income in excess of £1bn, and eternal truth stands unchallenged—that the more things change the more they stay the same.

As ever, the insurers' problem is to try to keep pace both with inflation costs and the effects of social and legal change. To get ahead is utterly impossible.

Insurers had plenty of warning that the Transport Bill, given its first reading last Thursday, would contain clauses to encourage car sharing schemes by altering the private car licensing laws.

Transport Bill

Insurers recognise that there is a measure of technically unlawful car sharing at present, and that the Bill will in part only legalise current practice, but clearly car sharing could be

given a further and substantial boost next summer. Seemingly, the number of private car passenger injuries and claims must rise—it is feared without any compensating fall in the commercial public transport sector—and there will be no spare cash in the kitty to meet the uncertain extra cost.

Insurers face the problem of how to charge whatever extra premium they think they will require—to extract a little more from each motorist, or rather more only from those who will offer car sharing services, as is sometimes now done with the limited local schemes that are in operation.

Back in the summer insurers were hoping for some offset next year by way of a reduction in accident and injury incidence stemming from seat belt and drinking-driving legislation.

The Minister has said that no time can be found in the present Parliamentary session for any bill on drinking and driving. So no effective change in the law can be operative before the spring of 1981.

Blennerhassett recommendations have been gathering dust now for over 3 years, and all that is worth saying on the problem must have been said long since.

Surely decisions, not consultations, are required. It is reckoned that implementation of the salient Blennerhassett recommendations would reduce road traffic deaths and serious injuries by about a quarter.

More sharing

But if there is to be further consultation, perhaps the Minister and the rest of us, should think not only about the enforcement of new traffic laws

but the status of those laws from the average citizen's viewpoint. The common reluctance, near refusal, to regard motor convictions as the criminality that they are, has led to the widespread availability of licence insurance for the motorist disqualified from driving.

Can it really be right to allow the offending motorist to mitigate the penalty the criminal law imposes by the purchase of cover to obtain, for example, a chauffeur-driven car during the disqualification period?

GENERAL MOTORS CORPORATION

NOTICE IS HEREBY GIVEN that resulting from the Corporation's Declaration of a DIVIDEND OF \$1.50 (gross) per share of the Common Stock of the Corporation payable on 10th December, 1979, there will become due in respect of BEARER DEPOSITARY RECEIPTS a gross distribution of 7.5 cents per unit.

The Depository will give further NOTICE OF THE STERLING EQUIVALENT OF THE NET DISTRIBUTION PER UNIT payable on and after 17th December, 1979.

THE CORPORATION'S THIRD REPORT FOR 1979. Authorised Depositories are assisting in the distribution of this report to holders of Bearer Depository Receipts. Copies may also be obtained from Barclays Bank Limited.

Barclays Bank Limited, Securities Services Department, 54 Lombard Street, London EC3P 3AH.

CAVENHAM INTERNATIONAL B.V.

9 1/2% Loan 1977/1987 \$US 50,000,000. Bondholders of the above mentioned Loan are hereby notified that the distribution of the 1979 interest of \$US 4,000,000 is to be redeemed, as has been effected entirely by purchase on the open market.

DIAMOND CAPITAL LTD.

Registered Office: 80, Broad Street, Monrovia (Liberia). A special meeting of shareholders of Diamond Capital Ltd. will be held on 13th December, 1979, at 10 a.m. with the following agenda:

DMIFONDS MUTUAL FUND FOR INVESTMENT IN GERMAN SECURITIES

For the financial year ended 30th September 1979 a dividend of DM11.10 is payable from 15th November 1979. The dividend is payable as follows:

AUSTRIAN GOVERNMENT GUARANTEED CONVERSION LOAN 1984/85

NOTICE TO HOLDERS OF CURRENT INTEREST IN "NON-INVALIDATED" DRAWN 1979. The Trustee has received from the Austrian Government in terms of its announcement of 12th May 1979, the proceeds of the 12th December 1979 coupon due on the above loan.

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EXHIBITIONS

THE SOMERSET HOUSE ART TREASURES EXHIBITION, Somerset House, Strand, London, WC2R 1LF. 22 November to 9 December (Private View 21 November, 7-10 pm). 10.00 am-7.00 pm. Admission £2.50 including illustrated booklet.

NOTICE OF AMENDMENT TO NOTICE OF PERMISSION TO REPATRIATE

NOTICE IS HEREBY GIVEN that in pursuance of the provisions of the Companies Act 1967, the Administrative Council of the Company has resolved on the recommendation of the Board of Directors...

NOTICE OF PERMISSION TO REPATRIATE

NOTICE IS HEREBY GIVEN that holders of International Depository Receipts (IDRs) representing shares of the Corporation of New York representing Depository Shares (Second Series) of the above company may request the Corporation to repatriate the shares...

LONDON BRICK COMPANY LIMITED

NOTICE IS HEREBY GIVEN THAT—1. The Transfer Books are a Register of the Shares of the Company and will be closed on 5th December, 1979. 2. The Transfer Books of the 14% Convertible Unsecured Loan Stock will be closed on 15th January, 1980.

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Beechwood Construction chairman change

Mr. J. C. R. Downing, a director for six years, has been appointed executive chairman of BEECHWOOD CONSTRUCTION (HOLDINGS). He succeeds Mr. M. C. Thomas, who has relinquished that position but remains an executive director. Mr. Thomas, executive chairman for the past three years, is a founder director of the company, which was formed 21 years ago.

Services, units of its printing division. He succeeds Mr. David Tidmarsh, who has become joint managing director of Besrose Advertising Products with Mr. Ken Clark, who is to retire during 1980.

Mr. Roger D. Turner, chairman of Gibbons Dudley, has been appointed a director of the STEETLEY COMPANY.

Mr. M. H. Kidd has been appointed deputy chairman of ALBERT MARTIN HOLDINGS and also joint managing director of the group with the present chairman, Mr. C. R. Martin. Mr. Kidd has been with the company for 15 years and has held the position of group finance director since 1972.

From December 1, Mr. Stephen Morley has been elected chairman of the distribution divisional Board of LCP HOLDINGS GROUP. He succeeds Mr. L. A. Maybury, who will continue with his executive directorship until that date until September 30, 1980, when he will retire from all directorships and be replaced in that capacity by Mr. Morley.

Mr. Charles B. Kemp has been appointed marketing manager designate of PANOCEAN-ANCO and will succeed Mr. Michael J. Cooper, who becomes managing director next year.

Mr. Colin Bell, director of Essex County Newspapers, has been elected chairman of the COUNCIL OF THE AUDIT BUREAU OF CIRCULATIONS for the next two years until October 1981.

Mr. Rodney Lewcock has been appointed financial director of WALTER LAWRENCE AND SON and Mr. Brian Thornton becomes marketing director. Mr. Lewcock was previously with John Howard and Co. Mr. Ted Gee has been made managing director of Walter Lawrence Retail and Mr. Tony Thompson is now financial director and company secretary of that company.



Mr. J. C. R. Downing becomes chairman and Mr. D. M. H. Rooney (BICC), vice-chairman, of the Export Group. Re-appointed honorary treasurer is Mr. R. E. A. Aldred of Taylor Woodrow.

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1976 Jaguar 4.2 Auto. Lavender with Biscuit leather, air-conditioning, chrome wheels, P. registration. £5,695

1978 Daimler Sovereign 4.2. Juniper Green, S registration. £3,995

1979 Jaguar 5.3 Auto. BR Green, T registration (leaseable). £11,200

1978 Princess Special Six Auto. Black, sunroof, tinted glass, PAS, S registration. £3,595

1975 Rover 2200 TC. Black cloth interior, P registration. £2,495

1976 Rover 2200 SC. Yellow, Black leather interior, radio, R registration. £2,495

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Please help—send a donation today to: Room F.1, The Multiple Sclerosis Society of G.B. and N.I., 4 Tachbrook Street, London SW1 1SJ.



THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

Can Singer stitch itself together again?

One of the oldest American-based multinationals is being restructured for the second time in four years. Ian Hargreaves reports

ALMOST exactly four years ago, Joe Flavin cleared his executive vice-president's desk at Xerox and headed for midtown New York, to take on his new role as saviour of Singer.

Two years later, the headlines proclaimed his victory: "The story of a turnaround." A textbook example of saving a firm from near disaster," as two of America's most distinguished dailies put it. Flavin himself proclaimed 1977 the "banner year," declared it the end of Singer's bloody restructuring period and set the revitalised company four targets for what Flavin called the "development period" of 1978 to 1983.

At the time, the targets seemed modest. They were for revenue growth of at least 10 per cent, operating income to rise to 10 per cent of annual sales, debt equity ratio to be reduced to 0.6 to 1 (at one time it was more than 2 to 1), and the achievement of an "A" credit rating for the company's funded debt.

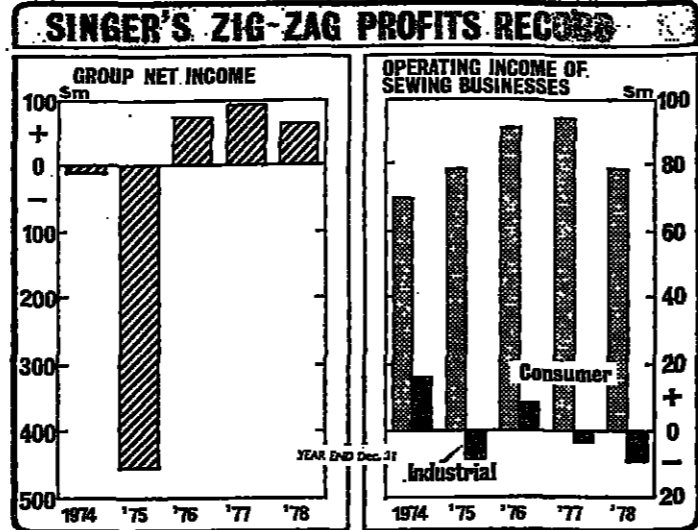
History has a way of rewriting such scripts. Today Singer stands chastened and Flavin is back with his restructuring programme.

In the past few days the U.S. credit rating agencies have again cut Singer's credit rating to its pre-Flavin level, making it costly, if not impossible, for Singer to raise long-term loans. The company has also just reported a \$170m loss for the first nine months of 1979 on sales which were stagnant in real terms at \$1.9bn. Not surprisingly, any progress being made on the debt equity ratio has also gone out of the window and Singer has been forced back to its short-term lenders, the banks, for a new revolving credit package at a time when U.S. interest rates are running at record levels.

An early casualty of this traumatic reversal of fortune was Singer's sewing machine factory at Clydebank in Scotland, and its 3,000 workers. There will be many more casualties in the next two years as Flavin acts to cut jobs, increase productivity and lift the utilisation of manufacturing capacity from its present dismal average of 50 per cent in the Singer sewing machine factories of Italy, France, West Germany and North America.

A proposal to halve the West German workforce has already been made to the company's trade unions in that country. What went wrong? Flavin cannot claim that the past four years have seen general economic pressures or that unpredictable changes occurred either in Singer's markets or its competitive environment. The obvious conclusion is that Singer's problems are the legacy of more than ten years during which the company has committed just about every basic business error in the book. Here are a few examples:—

1—Singer failed to respond to the growth of lower cost competition in the Far East: beginning with Japan more than 20 years ago, it has gathered pace with the entry into the sewing machine industry of Taiwan. Singer transferred some of its manufacturing to lower cost countries in the developing world, but completely failed to control costs and efficiency at its crucial European and American plants.



Joe Flavin (left) joined Singer four years ago from Xerox as chief executive. He began turning the company round but it has now slumped back into the red because of trouble in its most basic business: consumer sewing machines. Sales of domestic sewing machines in the developed world have halved since 1972, to a large extent for sociological reasons. Singer has been trying hard to attract customers with its multi-function electronic machines (right). Meanwhile sales of traditional machines are thriving: made in Taiwan, these treadles are in demand all over the third world.

2—Diversification seemed an obvious answer for a one-product company in the late 1960s, so Singer diversified. But it did so with the finesse of a game of Blindman's Buff. It also spent money it did not have on diversification, thus taking the level of company debt to over \$1bn—more than double shareholders' funds on the eve of Flavin's arrival.

3—Capital investment was neglected in the basic sewing business. Between 1976-78 Singer provided for over \$80m in depreciation for its sewing business assets. It spent \$74.7m in those three years on actual capital investment at a time when its markets and technological superiority were under vigorous attack.

4. As one of the first U.S. multinationals, Singer allowed its operations to spread globally in a pattern which often lacked both logic and control, and created subsidiaries in 35 countries. Management control weakened and so did the balance sheet, particularly through Singer's inability to manage the complexities of the foreign exchange problems this global sprawl created. In the five years to 1978, Singer lost \$81m in foreign exchange adjustments, failing to make a gain in any one of those years.

5. Singer adopted and stuck to a style of retailing, which even monopolies such as Britain's Gas Board has found cumbersome and inflexible in recent years. The company's long retail chain of wholly-owned sewing centres has not been outstandingly successful in selling sewing machines and they were a disaster when Singer tried to sell other products through them in the early 1970s.

6. Singer failed to research basic markets, such as the use of sewing machines in the developed world. Two years ago even Flavin was talking of the "demographic and personal income factors in the U.S." which would increase sewing machine sales in the late 1970s and 1980s. In its announcement of the Clydebank closures, Singer laid most of the blame on a 50 per cent drop in this U.S. market since 1972.

7. Flavin's big achievement has been to sort out these non-sewing businesses, a task for which his experience at Xerox, and before that at IBM, ideally suited him.

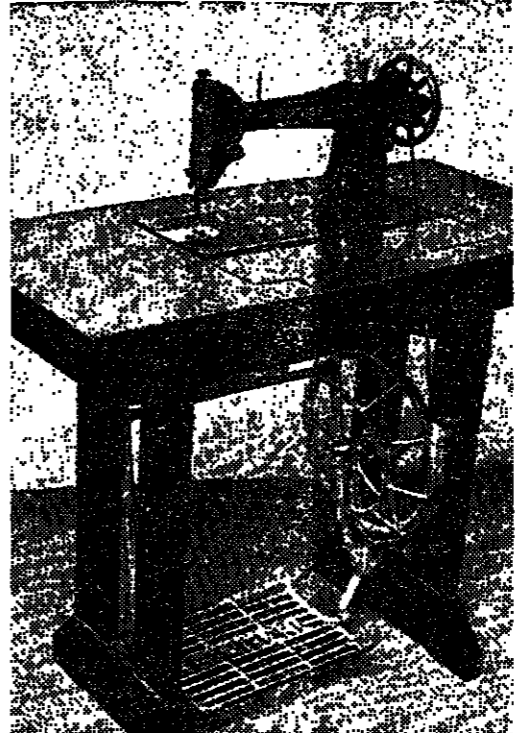
He sold the worst cases such as business machines and Italian washing machines, and then set about whittling away at the debt problem, as the balance sheet became stronger, by substituting long-term debt for short-term loans with floating, and therefore difficult to manage, interest rates.

The result is that Singer today has two non-sewing divisions. The larger is its consumer products sector, which includes furniture, power tools (Singer claims to be number two in a Black and Decker), air conditioning and meters. Then there is a pleasantly stable lump of technology-rich government contract work in aerospace and marine electronic products. Together the non-sewing areas accounted for half of Singer's sales last year and over 60 per cent of its operating income. "These businesses are doing well and will continue to do

well in the future," says Flavin. Some Singer analysts agree and believe that now Flavin has moved, however belatedly, to tackling the sewing problem, he will have similar success. Some analysts are even calling it one of the hottest tips for the New Year because the company's shares are trading at around their par value of \$10 each, giving the company an absurd market valuation of \$170m. The same factors technically make Singer a high risk candidate for takeover: except that a suitor would require an exceptionally strong disposition to absorb what is still well over half a billion dollars of debt.

Much to the irritation of Singer's marketing men, who are eager to push the image of a brave new Singer beyond the sewing machine, the question still has to be asked whether the bedrock business can be turned round at this stage. It has to be admitted that Flavin's predecessor had much more success than Flavin in selling sewing machines, reversing Singer's declining market share in the U.S., where its only significant competitor is the Japanese-made machines, retailed by Sears Roebuck, the retail giant. Kircher pulled Singer's share back above 40 per cent against an estimated 30 to 35 per cent now.

It also has to be explained why Flavin, who still appears to retain the confidence of his directors, his bankers and, not least, himself, did not act sooner. So far, no one has produced an entirely convincing answer.



and don't much want to sew in the evening.

Hope is that this sophisticated end of the market can be attracted in increasing numbers to Singers' fancy multi-function electronic machines which sell for over \$1,000 each.

It is interesting to note, however, that in spite of the 50 per cent drop Singer says it has seen in the U.S. sewing machine market since 1972 (it won't quote the actual figures), the value of sewing machines sold in the U.S., virtually all of which are Singer products, has doubled to \$305m. The growing value of products sold here has not prevented Singer's slide into losses on its U.S. sewing operations, indicating the presence of fundamental cost-price and production management problems.

The impression that Singer has some hitherto intractable problem on its production side is supported by the company's performance in the industrial sewing machine business, where its market share has slithered and where it has made losses for three of the last five years. This is in spite of a determined attack on the market with a new and sophisticated product, the Centurian, which Singer has struggled to produce in sufficient quantities and at the right quality and price.

Singer also places great faith in its ability to hold its strong position for sewing machines in third world markets, where even its Taiwanese treadle machines of the kind popular in pre-war Britain, are still selling. But if the developed world market really is declining at the pace Singer suggests, it is bound to face increased competition in these smaller markets too; currently they account for just over a third of its estimated 2.5m sewing machine sales each year.

There must also be a big risk that a Singer struggling with its core business, and short of cash, could run into operational problems with its other consumer businesses in the course of 1980.

When it comes to Europe, Singer admits that it does not know where the low point, either of its sales or manufacturing capacity will fall. It is conscious of the dangers of spreading its reduced manufacturing requirement too thinly, painfully aware of the exchange problems still being aggravated by a weak dollar and open to the suggestion that perhaps it is no longer big and strong enough to sustain a European manufacturing presence. At the same time, like other non-European companies, it is well aware of the political difficulties it could face in shipping in cheap Far East-produced hardware in competition with Italian or French machines.

As for Scotland, Singer leaves behind it a rambling, outdated building echoing with broken expectations. At the age of 128, Singer is entitled to remind sceptics of its staying power. But it is now taking its second bite inside five years at setting its house in order. It cannot expect a third.

Catalogue of blunders

Lawrence Mitchell, the company's vice-president for public affairs, says it is impossible to judge when the market will bottom out, and he admits that the company's marketing men still lack any clear idea of how they can reverse the trend. Historical context, of course, is important in explaining this remarkable catalogue of blunders. The sins of ill-advised diversification were the work of Flavin's autocratic predecessor, the late Conel Kircher. It cost Flavin a \$431m write-off within months of his arrival to prepare the ground for straightening out 22 acquisi-

Had its chance

Whatever the reasons for the delay, Flavin now has his second restructuring programme in full swing. This involves putting all the sewing machine production centres through rigorous investigation; and instituting a new trial period. If they cannot match competitors' costs or operate profitably in their own markets they will be reduced in size or even, like Clydebank, which was deemed to have already had its chance, face closure. Meanwhile, the company will expand production in South America and the Far East. Flavin also plans to cut the number of Singer sewing centres in the U.S. alone from 950 in 1977 to 750 by the end of this year, with more closures

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THE ARTS

كتاب من الشعر

Lyric Hammersmith Studio Landmarks by MICHAEL COVENEY

Nick Darke's everyday story of country folk is set in the Cheshire of 1835. Two brothers, lads of the soil, are debating the advantages of new farm technology while one of them is building a set of stocks. The stocks are to be a showcase in the King's Silver Jubilee celebrations. But they assume a dramatic function when a Nature-loving hook-nosed clergyman, with talk of getting closer to God by watching larks and stoats, is suspected of being a "boggart" or ghost, and unceremoniously dumped in the constrictive contraption. Is he a boggart or not? The play, and especially the production, makes nothing of this ambiguity (compare and contrast with Captain Swing at the Warehouse).

Wigmore Hall Luigi Alva by MAX LOPPERS

The recital on Friday, a display of vocal elegance, artistry, and control of a superior order, proved nonetheless a good deal less scintillating than the one Mr. Alva gave at the Elizabeth Hall five years ago. The cause of the moderated impact was obviously not the change of venue, and demonstrably not the ravages of time—the voice is remarkably well preserved, a *temore di grazia* still flexible, forward, and appealing, if never quite honeyed of tone (a few low clouds of unsteadiness cleared early on).

But this time Mr. Alva appeared to have judged the balance of his programme less skillfully. Arias by Vivaldi, Alessandro Scarlatti, and Handel, followed by Mozart's "Miserere" (K.431)—this morsel of essential information, along with many others, was unavailable in a grubby, ill-misprinted sheet of words grotesquely overpriced at 25p made for a rather solemn first half, at least as here traversed. Though the singer's line never trespassed beyond the confines of good taste, our knowledge of what constitutes "classical" singing now insists on a more lively approach; the absence of any period graces or ornaments, in conjunction with the ponderous pace at which most of the numbers moved, forced the performances into attitudes both old-fashioned and respectful in the wrong way. It was the notable achievement of the pianist, Craig Sheppard, to indicate orchestral colouring with unpropitious material; both singer and accompanist brought a welcome amount of tonal variety to play on the Mozart concert aria.

Mitchell Prize awarded

The Anglo-American Mitchell Prize for the History of Art, a sum of \$10,000, has been awarded to Meyer Shapiro for his book, *Modern Art, 19th and 20th Centuries*.

TENNIS BY JOHN BARRETT

McEnroe wins again at Wembley

JOHN MCENROE, the 20-year-old left hander from Douglaston, New York won his second successive Benson and Hedges championship at Wembley yesterday. He beat Harold Solomon, a fellow American, 6-3, 6-4, 7-5 in 2 hours 31 minutes of long and arduous rallying.



Angela Chadfield and Colin Haigh

Citizens, Glasgow The Maid's Tragedy by B. A. YOUNG

At the peak of the Philip Prowse's splendid set, sis Honour, a character introduced by Mr. Prowse (who is director as well as designer) to make up for all those gods and things he has wisely left out. Honour, a fresh-faced youth (Ruper; Farley), hands weapons to those who need them for reputation's sake, and joins in unison with any line that treats of probity or esteem. Where honour's at the stake, bloodshed must always follow, and the final curtain falls on a scene as bloody as the end of Hamlet.

The play, which is by Beaumont and Fletcher and dates from about 1608, is no masterpiece, just a Jacobean comedy-thriller, but it is the kind of thing the Citizens can do splendidly. The voluminous costumes are luxurious beyond belief, though Amintor for some reason never changes back out of his nightgown after his dis-appointing wedding-night. Even the scenery joins in; two great stars that topped the set at the beginning are gone after the interval, to be replaced by skeletons, while Honour comes down to sow the stage with swords like seedlings in an orchard.

Coliseum Julietta by MAX LOPPERS

Thursday's performance of Martini's opera, in the New Opera Company production (in association with ENO) first seen last year was an evening of enchantment. I know of no opera quite like Julietta. With it, indeed, Martini may have invented a new category of opera—the opera of dreams; for though earlier 20th century ventures into the twilight zone of operatic surrealism allow interpretation in terms of dream symbolism (the New Opera Company has argued a highly persuasive case for reading Shostakovich's Nose in such a light), in Julietta we seem to feel the whole theatre itself gradually transformed into a dream world. I know of few opera productions more persuasive, more accurate in style, more firmly rooted in the music—more remarkable, in sum, than Anthony Besch's, in sets by John Stoddart that deserve a permanent exhibition place at the Tate, and as conducted with his peculiar combination of glittering fancy and dramatic muscle by Charles Mackerras. It all amounts to a revival that any true opera lover would be mad to miss.

Julietta ou la clé des songes, the play by Georges Neveux on which Martini so faithfully based his opera, seems now, five decades after its premiere and four after the opera's, uncommonly whimsical, tricky, and repetitive. By musical means of extreme subtlety such raw material is manipulated into a theatrical experience not only insidiously compelling but also, finally, moving and serious. Though the music, particularly that of the first act, draws little attention to specific working, a sense of blandness will not survive repeated hearings—and Julietta is an opera for repeated hearings, repeated encounters.

For then we begin to recognise the degree of musico-dramatic mastery, to understand how the dreamer's mind and the magical fluidity of mood achieved, to appreciate the quicksilver transitions between the three basic music-types (Michel's Debussyan sequences, instanced at the very start; the



Sally Burgess

by Sarah Walker (fortunately, the entire cast ought to be mentioned. The pronunciation of the word Paris requires co-ordination—at present both the French and the English manner are variously on display).

Savoy Not Now Darling

"Isn't that where all the young ladies can be?" "Yes, and most of them do." If that makes you laugh, you will enjoy Not Now Darling, Ray Cooney and John Chapman's 12-year-old farce.

Nottingham Playhouse Forever Young by MICHAEL COVENEY

Shane Connaughton's new comedy begins with a promising, though far-fetched idea for farce, before dwindling into yet another interminable lament for the 1960s. The scene is Blackbushe aerodrome, Surrey, where Bob Dylan is to perform for 100,000 weekend beatniks with paunches and memories of Grosvenor Square. This of course happened only last year. The point is that Jackie (Lois Daine), a sexy pin-up in the class of '68, has issued invitations to people she has not seen in a decade.

SOCCER BY TREVOR BAILEY

Rix could fill Brady's Arsenal role

IT HAS been a happy week at Highbury. Arsenal, which spread through to the quarter-finals of the Football League Cup at the expense of Brighton, generally reckoned to be the most anaemic eleven seen here this season, and making their way win at Nottingham Forest even more remarkable.

On Saturday, Arsenal thoroughly deserved their 2-0 victory over Everton, which takes them into a challenging fifth place in the first division, only three points behind the new leaders, Liverpool.

GLC proposes rules for discos

THE GREATER London Council has published a proposed code of conduct for disc operators. Called "Disco Rules—OK" the code is an attempt to curb violence at discos which has caused the death of eight people in London so far this year.

After a pleasant and exciting contest, which was a credit to both contestants, the Everton manager, Gordon Lee, summed it up as a two-half affair. His side had enjoyed the better of the first session and failed to score, while Arsenal had dominated the second, but had not

West Midlands industry shows the stiff upper lip

BY ARTHUR SMITH, Midlands Correspondent

An appeal to the Dutch

MOST MAJOR NATO Governments now seem ready to go ahead with an important double initiative at their annual winter meeting in Brussels next month. A decision to mend a gap in Western defences by deploying a new generation of American nuclear missiles in Europe is likely to be accompanied by an offer to pursue fresh arms control proposals with the Soviet Union. The offer of negotiations has been planned for some time. One of its main purposes is to reassure Western Governments and public opinion that NATO is not seeking to escalate the arms race by deploying the sophisticated new American Cruise and Pershing missiles. Following President Brezhnev's East Berlin "peace initiative" of October 6, it is now also seen as the West's political answer to his proposals.

Resistance

By far the strongest resistance to the Western plan, at least in its current form, has come from the Netherlands. At last week's meeting of the Alliance's Nuclear Planning Group in The Hague, Mr. Willem Scholten, the Dutch Defence Minister, was obliged to record serious reservations about the programme, under which 48 of the 572 new missiles would be based in his country—despite the fact that he personally favours the scheme. The strength of Dutch Parliamentary opposition is such that he was forced to argue for a postponement of any decision to deploy, though not to produce, the new weapons, until Soviet intentions have been tested in further arms control negotiations. Alternatively, or additionally, the Dutch Government would like to see the new missiles to be based in the Netherlands and the number of nuclear warheads already in the country reduced.

The other countries showed little sympathy for the Dutch position last week. The U.S. and the UK told Mr. Scholten that his standpoint was totally unrealistic and emphasised that the package must be accepted as a whole. Their hope is that the Dutch will realise in the coming weeks that the package cannot be reopened and will therefore stand up and be counted in Brussels in December. Given that there is to be another

No alternative to cash limits

THE GOVERNMENT seems to have planned its tactics for the public sector pay battles ahead with more finesse than did its predecessor. Friday's announcements of cash limits for the local authorities and nationalised industries struck a balance between confrontation and appeasement that may enable Britain to waddle through the coming pay round without a repetition of last year's hardships. Although, in the long run, the continuing use of cash limits as an instrument of incomes policy will cause serious dislocation in public sector investment programmes and may exacerbate the inefficiency of many public sector activities, the Government has justified the immediate need to contain wage inflation must take priority. It is hard to disagree with this assessment.

Unrealistic

In principle the way that governments have used cash limits to undermine the traditional system of public expenditure planning is unsatisfactory. Ministers and officials spend months going through every part of the public sector with a fine tooth comb, balancing priorities, cutting what is dispensable, augmenting what is not and finally presenting their plans to Parliament in a White Paper. Then, a few weeks later, many of these decisions are in effect overturned, when the Government announces an unrealistic estimate of inflation which will allow blanket cuts to be imposed by the use of cash limits.

Neither the Government nor the local authorities can regard as realistic the allowance of 13 per cent for inflation built into the local authorities' cash limits for next year. To keep wage bills for 1980-81 within 13 per cent of this year's level, local authorities reckon that pay settlements will have to be kept down to around 10 per cent, taken into account. Almost certainly, therefore, there will be spending cuts beyond the 21 per cent officially demanded by the Government, while rates will increase faster than inflation.

Nevertheless, the local authorities generally feel that they have done as well out of the Government as they could reasonably have expected. For in the irrational climate for pay

ROUGH MEDICINE—but something our industrialists will have to live with," is how Mr. Reg Parkes, chairman of Brockhouse and of the West Midlands region of the Confederation of British Industry, describes the new record level of interest rates.

He retains "a measure of optimism" in the face of one of the gloomiest surveys, published last week, ever conducted by the local office of the CBI. Questionnaires to Midlands companies indicated a sluggish home market, difficulties with exports, lower employment, a worsened financial position and a deterioration in business confidence. On the brighter side there had been "a slight improvement" in capacity utilisation and "a marginal revival" of planned investment spending.

The regional council, meeting on the day that the Bank of England hiked minimum lending rate to a record 17 per cent, demonstrated "a remarkably resilient attitude" to the immediate problems, according to Mr. Parkes.

"We must stop talking ourselves into a depression which could become self-fulfilling. I am no more pessimistic than I was a year ago. The regional economy has in the past 12 months and has the strength to withstand 1980."

An example of the relative optimism demonstrated by a number of companies within the region is provided by Mr. Leslie Fletcher, chairman of Glyndwed, a Birmingham-based company with a broad range of interests in manufacturing industry. He said at the weekend that the picture would have to be reviewed in the light of rising interest rates but none of his managers has taken as gloomy a view of the future as that indicated by CBI forecasts.

"Like the man who jumped from the top of the tower block we might still be at the 13th floor and saying everything is OK, but our experience just does not tie up with the CBI forecast."

For Glyndwed, with interests in steel stockholding, industrial fasteners, bathroom and kitchen equipment and consumer durables the position is no better nor worse than for the past 12 months. "Our capital expenditure next year will be similar to between 1978 and 1979 and we shall be looking for improved productivity and higher output," Mr. Fletcher maintains.

The apparent divergence of view between industrialists is a reflection of the current uncertainty of exactly where in the economic cycle the region stands and what damage the industrial disputes of this year have already inflicted. 1979, which started with the strikes in road haulage and petrol delivery, has seen profits squeezed by mounting inflation, high interest rates and an appreciation of sterling. But the blow to the West Midlands with its heavy concentration of manufacturing



Views from the Midlands: Mr. Anthony Rudge of Barclays Bank (left): investment continues; Mr. Leslie Fletcher of Glyndwed: looking for improved productivity; Mr. Reg Parkes of Brockhouse (right): markets are more competitive.

Nowhere is the consequence of the poor performance of the vehicle sector—cars, trucks and tractors—more clearly illustrated than in the foundry industry. Spare capacity in ferrous foundries is running at around 40 per cent and in the aluminium and light alloy sectors even higher.

A prolonged downturn

The carpet industry, which has suffered a prolonged downturn in recent years, saw a dramatic increase in some markets in the early part of 1979 but now faces competition in the tufted sector from U.S. imports. Factories are still running at around only 70 per cent of capacity.

The pottery industry, in spite of problems posed by the rise in the price of raw materials, has failed to realise planned growth but has maintained volume.

The key factor determining the pace of activity in the region is motor vehicles which employ more than one in six of those in the manufacturing sector. Not only has BL production fallen far short of expectations but Chrysler UK and Vauxhall have suffered shortfalls because of extended industrial disputes.

The apparent divergence of view between industrialists is a reflection of the current uncertainty of exactly where in the economic cycle the region stands and what damage the industrial disputes of this year have already inflicted. 1979, which started with the strikes in road haulage and petrol delivery, has seen profits squeezed by mounting inflation, high interest rates and an appreciation of sterling. But the blow to the West Midlands with its heavy concentration of manufacturing

ment of starting and costs over the next few months.

Given the industrial relations problems managements have faced so far this year there can be no mistaking the concern about the outlook for the current year which will stretch through the winter months. At this stage, however, the most serious risk of disruption is likely to come from public sector employees protesting about cut-backs rather than from manufacturing workers.

While managers might differ in their interpretation of the changes taking place within the region, the message of shut-downs and redundancies has not been lost upon the union leadership. Mr. Phil Povey, an experienced regional official of the Amalgamated Union of Engineering Workers, says: "We are seeing the manufacturing base of the region being eroded at such an alarming pace that one can only be fearful of the consequences."

However, he does not think the seriousness of the situation has penetrated to the shop floor. "Workers are still being dazzled by the glare of redundancy and severance payments. They do not realise that it provides only temporary relief. This time the alternative jobs will not be available."

Union officials note also a new determination among senior officers. "Management is no longer prepared to enter into a Dutch auction. There is a tendency to come into negotiations with a first offer that is also the last. They say what they mean and mean what they say."

The failure of production workers at Chrysler UK to extract any concession from management after 15 weeks of strike action seems to have exerted a salutary effect on the region. Militancy has also evaporated among engineering workers who demonstrated loyalty to the union leadership in the recent dispute but feel they have little to show for their sacrifice.

Perhaps the key to the position is the BL workforce whose annual wage increase was one of the beginning of this month. Sir Michael Edwards, by-passed the militant shop stewards in a ballot to get overwhelming support from the workforce for the closure of plants and the axing of 25,000 jobs.

In response to a shop stewards' claim for a 30 per cent index linked pay rise he is now offering 5 per cent in return for fundamental changes in working practices—a demand which is now backed by Sir Keith Joseph, the Industry Secretary, as a condition for advancing more money to the State-owned concern.

The trade unions in the West Midlands are noted for their militancy but seem to be realising that in the face of a difficult business climate, low profits, hostile public opinion and a determined Government, any wage increases will have to be earned in the main through higher productivity.

Marginal orders

The division, confronted with lack of growth in the home market, took the courageous decision to promote exports which this year are likely to reach £60m.

While TI must retain a long-term commitment to key markets a proportion of the turnover is "opportunity business." Such marginal orders—say for the tube to Eastern Europe—can be accommodated on a low profit basis for only a short time. Whether such business is jettisoned must depend largely upon the move-

MEN AND MATTERS

Making an entrance

One of a new breed of what might be termed guerrilla diplomats, 24-year-old Tomas Aguelo, did not have the smoothest of passages when appointed Nicaraguan consul in London. It turned out that the existing ambassador, Benjamin Ximenes, a long-time supporter of the Marxist General Somoza—still considered himself the legitimate London representative of Nicaragua, and only handed over the keys to the embassy last week. It appears that he was helped to see reason by the metropolitan police. Conscious that even in Gloucester Road they were dealing with a foreign territory, they rang Mordaunt, rather than making a personal visit, to explain certain practical implications of the revolution back home. The ex-ambassador has now left for America, leaving behind a trail of bureaucratic debris and, I am told, "some trouble about the embassy car."

Sign of the times

America's most controversial former Secretary of State, Henry Kissinger, is being given a rough ride these days by the gentlemen of the Press. On the subject of Cambodia especially, they goad him to the point where he is wont to turn white with anger and frustration, stumbling over his words and stabbing the air like Basil Fawlty reprimanding Manuel. Last Friday—at a London news conference held to publicise his memoirs, *The White House Years*—he was faced with a particularly hostile crowd of interrogators from Britain and abroad, and it was revealing, therefore, to see so many of them creep up afterwards to the good doctor begging him to autograph their free copies of his book.

Mixed options

Firms which send their brightest and best to the 10-week management course at Manchester Business School may be reassured to learn that—apart from having their heads filled with marketing analysis, micro-electronics, group dynamics and so on—when their men return few will ever again be forced by a wine list.

Disinterring Igor

Not to be outdone by the old country, Canada is disinterring its very own spy scandal, with parallel, though admittedly less salacious, hints of cover-up and skulduggery. Fanning the flames is the new solicitor general Allan Lawrence, who is curious to know the contents of the file on the late Forties Russian spy affair.

This began with the flight of a cypher clerk called Igor Gouzenko from the Russian Embassy in Ottawa, and was followed by a large-scale investigation into spy rings operating in Canada. The Tschereau

in which we communicate socially.

This expertise should come in useful, perhaps more useful than, say, Transactional Analysis, during the long slow days of the coming recession. Ottaway has kindly sent me a full list of all the wines tasted on each course. The highlight of the first was, he says, the Sauternes; their consumption proved a genuinely educative experience. "The reaction ranged from 'No thanks, can't stand the stuff' to 'Mother always served it for Christmas lunch. But after a bit of coaxing they all agreed it was a great experience when drunk with the Barlett pears in syrup,'" he tells me.

Marked men

Trade Secretary John Nott's recent attack on the growth of "rampant consumerism" in the 1970s prompted a swift response from the Consumers' Association, publishers of *Which?* magazine. At the association's annual meeting at the weekend, badges were distributed proclaiming "I'm rampant." The target of the demonstration was presumably Sally Oppenheim, Consumer Affairs Minister, who addressed the meeting.

Badges are now reported to be in great demand within more playful sections of the Department of Trade.

Chez Abdul

As any headline will tell you, Tehran is not exactly the friendliest place for a foreigner to visit these days. Yet this has not stopped the U.S. hotel chain Hilton from attempting to lure business travellers to the revolutionary capital.

A leaflet prominently displayed in the Abu Dhabi Hilton begins: "There used to be times when it was difficult to get a room in Tehran." These days, it remarks delicately, "we are not as busy." The Tehran Hilton, it seems, is still in full operation: "Our employees are eager to show you that you have good reason to stay with us when your travel brings you to Tehran." The sales letter, signed by the resident manager Abdul Rahnin Kaseirovi, goes on to list the culinary delights of the hotel, such as the French restaurant, Chez Maricre, the Persian garden for local cuisine, and the coffee shop for food at "popular" prices: "Our recreation facilities are unequalled in the city, relax at the health club, have a sauna and bring your tennis racket. It would be a pleasure for me and all the employees of the Tehran Hilton to welcome you soon." The letter adds confidently.

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ELECTRONIC COMPONENTS

Electronic component manufacturers have a diverse and fast-changing role in the electronics industry as a whole. Many new developments will be highlighted in London this week at the Electronic Components Industry Fair, 'Electronics 79' at Olympia, (November 20-23).

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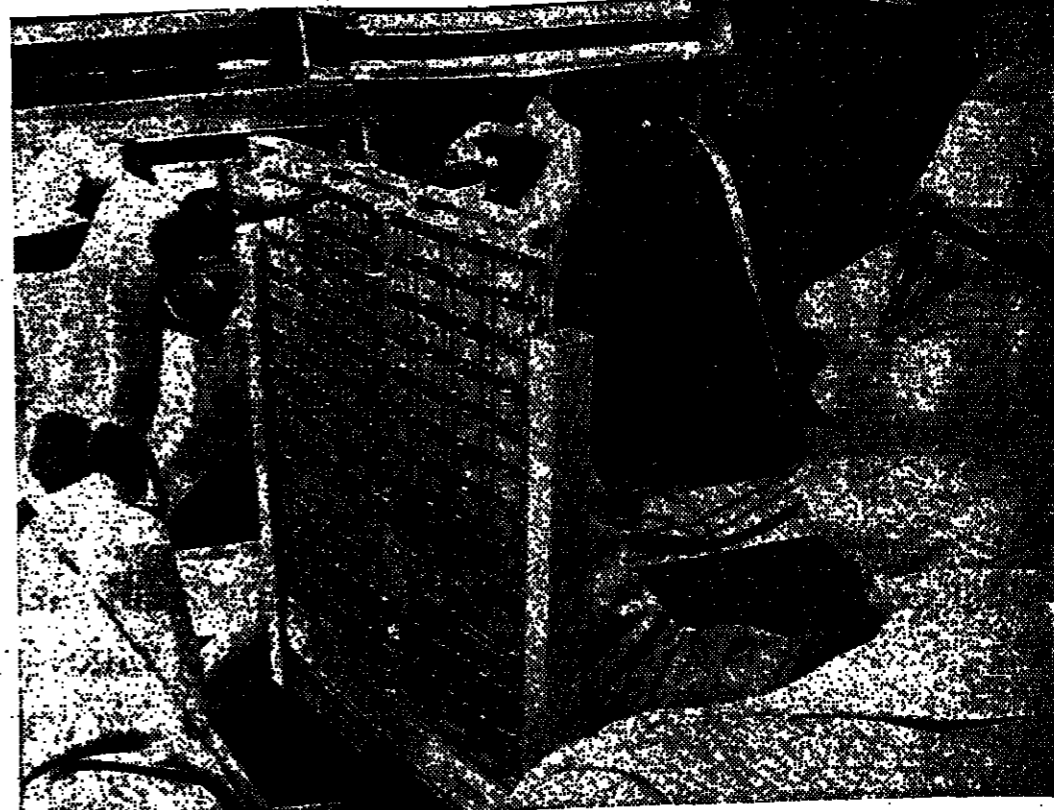
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Size comparisons—ten tiny semiconductors (silicon chips) from Philips fit easily onto a contact lens (diameter 9mm), which rests on a watch face



Eugene Zienkiewicz working on a 32K RAM (memory) board for a message-switching system at the IFT Business System's Group Data Systems Division factory at Enfield, north London

Rapidly changing sector

By Elaine Williams

ELECTRONICS COMPONENTS is one of the most diverse sectors of industry, ranging from the manufacture of valves and devices such as semiconductors (silicon chips)—which include transistors, microprocessors and memory circuits to radio components, such as capacitors, resistors, electro-mechanical devices and printed circuit boards—to the electronic tubes which are used in the manufacture of televisions.

In Britain, the electronics components market has been growing rapidly, in fact, far more rapidly than the economy as a whole. The manufacture of components is a rapidly changing and highly competitive one as illustrated by the semiconductor market which is dominated by U.S. companies.

Microelectronics is one of the key technologies of the future and this is the reason why most European countries have invested heavily in semiconductor manufacture to ensure that even in the face of U.S. dominance of this sector of the components industry, there will be some indigenous manufacture.

The UK strategy for its components industry is typical of the feelings of other European partners. Electronics components are important to equipment manufacturers since if UK products are insufficiently competitive or if output does not

grow fast enough imports will grow considerably faster than exports. Microelectronics components will be used in products ranging from consumer durables to industrial capital equipment. In fact, since the words silicon chips came into common usage, the electronics components industry has become extremely important.

Reports by the National Economic Development Council Sector Working Party for the industry pointed out the importance of a strong components supply industry. The Electronics Components Industry Federation which represents manufacturers described 1978 as a very eventful year for this sector since it was a year in which the Labour Government pledged a great deal of money to the development of the semiconductor side of the industry.

which oversee the interests of the European manufacturers: the Electronic Component Manufacturers Association and the Committee of Manufacturers of Electronic Components.

Another important sector of the electronics components industry is television tube manufacture. In France accounts for 18 per cent of turnover. The television set is the single most important item in consumer electronics. Last year, world production was about 30m units. Japan produces almost half the world's output in television picture tubes which has been of great concern to European manufacturers.

Broadly speaking, EEC deals with policy matters and is in contact with the EEC commission whilst CEMEC looks after technical matters affects members and reports to EEC.

In Britain, there now remains only one television tube manufacturer, Mullard, which is part of the Dutch Philips group. Its sales account for 20 per cent of the UK market. However, Mullard is also a large manufacturer of active components—the team for transistors and integrated circuits, since this is the largest growth area.

CEMEC is not only involved with the setting of a single set of European standards but is also actively involved on the world wide International Electronics Commission Quality Assurance for electronic components.

Both the setting of European and World standards pose thorny problems for manufacturers since each country, for its own protection of home markets seeks to impose one or several standards and each country has strong ideas about what type of standards should be set.

CEMEC met and discussed that evidence had been given which showed that the rules of the International Electrotechnical Commission Quality Assurance, which excluded component manufacturers not participating in the old system, was against U.S. Anti-Trust laws.

This could lead to problems for European companies wishing to export components under the system to the U.S.

European countries are trying to modernise manufacturing to improve their competitiveness especially to bring down prices compared with the Japanese. This is particularly true of the French and British component makers.

The West European industries have a very arduous task since they have to cope with serious problems generated by the competitive industries in the developing and low-salary countries all seeking to gain an entry into Europe for passive components.

Europe sees the development of common standards and the aim to make industries within individual member countries complementary rather than competitive as a way of allowing more opportunities internationally. However, the French industry feels that these positive moves will be insufficient if partners over the world do not respect the rules of fair competition.

Example

This is exemplified by the fact that in the early 1970s a typical colour television set contained 1,100 to 1,500 separate components. Today, a British set contains less than 600 components and Japanese designs have only 420. In such products the increasing use of integrated circuits leads to a reduction in overall component demand.

However, in other areas such as in consumer durables like sewing machines, washing machines and vending equipment the use of integrated circuits will grow. And the use of integrated circuits in such products also means the use of other components such as printed circuit boards, connector switches, displays and power supplies.

These type of components are the bread and butter of the electronics components industry and competition is often fierce when selling into the consumer sector of the market because profit margins are very low on high volume mass produced products such as connectors and switches. Often manufacturers seek to gain a substantial hold in the professional market where such margins are higher.

Passive components such as these are very important for the British component industry since it accounts for two thirds of the total component output in the UK and import penetration is lower for this sector of the industry than the components industry as a whole. British passive component manufacturers supply about 65 per cent of the UK market.

According to the Sector Working Party, the buoyant demand for many domestically produced passive components has been helped by the increasing adoption of the BS 9000 standard which was set by the British Standards Institute notably by the Ministry of Defence and the Post Office.

Also within Europe there is harmonising of standards so that components can be accepted throughout Europe without further testing or certification. This system called CECC strongly resembled the BS 9000 and both have the aim of building in quality by applying strict quality control procedures and disciplines to every aspect of the manufacture.

There are two committees



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Growing influence on industry

MICROPROCESSORS

THE MICROPROCESSOR, sometimes called the computer on a chip, has grabbed the limelight over the past two years in an extraordinary fashion. It has forced itself into the heart of both Government and corporate strategies, stimulated anxious debates on employment and is the bedrock of an industry whose growth rates continue to be very high.

Governments throughout Europe began to announce strategies on microelectronics last year: most contained certain forms of aid (for research and development, and/or for the stimulation of applications) and most, too, set their plans in the context of a general consideration of widespread technological change resulting from rapidly increasing automation of office and factory labour, together with the central role now being played by information. Of these strategies, the French Government's Nora report was the most elegant.

All governments approve of the establishment of semiconductor facilities: the French Government has aided Thomson-CSF in its efforts to link with the U.S. company, Motorola, while the Italian Government is preparing to subsidise the electronics industry to the tune of £600m during the next four years.

In West Germany, the Government is to launch a two-year £150m programme to develop very large scale integration products: in Japan, the Government promoted a number of microelectronic areas, especially VLSI which attracted a £130m subsidy.

In the U.S., there is little direct Government expenditure on industry: however, the amount spent on electronics through federal, and especially defence, expenditure is very high—expected to be around £10bn in 1979—and this gives microelectronic companies an ample home base from which to operate. At the same time, defence and other programmes bring with them research and development monies which have been crucial in product development.

In the UK, the previous administration committed some

£55m to a microprocessor applications programme, £70m to a microelectronics industry support scheme, and £25m to the establishment of a new semiconductor company, Immos. The present administration have cut back the MISP programme to £45m, and have not yet ratified a second tranche of £25m which Immos will need if it is to begin operations in the UK.

Potential

At company level, awareness of the potential applications of microprocessors has varied extremely widely. In both the U.S. and Japan, the strength of the semiconductor industries has meant that they have been taken up much more readily than in Europe, as the accompanying tables on semiconductor use show graphically. In Europe, some companies, naturally, the electronic companies in the west—have been aware of developments and in some cases actively pursuing them for decades; while others still appear neither to know nor care of their uses. A recent survey by the U.K. Government showed, for example, that 50 per cent of UK companies continue to ignore developments.

The European market is heavily dominated by the U.S. semiconductor companies: the only two companies having any significant effort being Philips of Holland and Siemens of West Germany. The former has acquired the U.S. company, Signetics, around fifth largest of the U.S. companies, and also manufactures chips in various locations in Europe. Siemens has a stake in the U.S. company Advanced Micro Devices, and also manufactures on its own account.

The French companies Thomson-CSF, Matra and St. Gobain are all in the process of linking with U.S. semiconductor houses in joint ventures; while in the UK General Electric (GEC) is setting up a joint venture with Fairchild. Immos, the State-backed company, has set up production facilities in the U.S., but has not yet committed itself to UK production.

Almost all the major U.S. companies—Texas Instruments, Motorola, National Semiconductor, TTI, General Instruments and (soon) Mostek have

plants in Europe, and most are considering enlarging them. The major exception is the innovative company, Intel, and it is thought to be actively prospecting for sites.

Growth in Europe, though from a lower base, is forecast to be rather higher than in the U.S.: at the same time, the U.S. companies have realised that in order to avoid tariffs, they must locate within the EEC. It remains broadly true, however, that most of the original design work stays in the U.S., and that much European production is satellite.

Within the semiconductor industries, two potentially far-reaching changes are now taking place. First, the Japanese industry is seriously rivaling that of the U.S.—to the alarm, it should be said, of the latter, which is alleging unfair practices and demanding U.S. Government action to keep the threat at bay. In large part, the emergence of the Japanese industry has been due to a decision taken by the Government and the major electronics corporations that it must switch much of its energy from consumer electronics to computer and semiconductor technology: to this end, massive research programmes have been initiated and the Japanese computer industry is now about to pose a large threat to IBM.

Thus, Japanese companies, such as Fujitsu, Hitachi, Mitsubishi and others, are to be found on the leading edge of semiconductor development, and are busy acquiring production facilities in the U.S. to take advantage of the boom in the market. These companies may be expected to be particularly active in the VLSI field, the dominant next stage of microprocessor development, and it is likely that industry standard chips will soon be made by Japanese, rather than U.S. companies.

The second is that semiconductor companies, once generally independent production houses, are now increasingly having to seek the shelter of large corporations because of their insatiable demands for capital. In the past few months, Mostek and Fairchild, both in different ways industry leaders, have been acquired by leading corporations. This has been the result of a two-way movement:

the companies have needed the cash to equip for VLSI production, while the companies—United Technologies (which acquired Mostek) and Schlumberger (which acquired Fairchild) both wanted their own semiconductor production under their own wing.

Chips are now the "fuel oil" of electronics, and large companies wish to secure their supplies. At the same time, the speed of developments continues unabated and the market is forecast to continue to grow, even through the forthcoming recessions. Microprocessors are increasingly pervasive, being taken up in every sort of equipment which was previously electro-mechanical. For Western European countries, the lesson is clear: the technology must be adopted, either through acquisition of companies or through "growing" them from scratch.

John Lloyd

Important aspect of marketing

DISTRIBUTOR NETWORKS

RISING COSTS involved in direct selling of electronics components mean that distributor networks are destined to play an increasingly important part in the marketing system. There are now about 200 companies in the UK involved in the distribution of electronics components. Aggregate turnover of distributors last year was £150m, of which £85m is attributed to only five companies and their subsidiaries.

These are Electrocomponents, Diploma, Farnell Electronics, Unitech, and AB Electronics Product Group. Two other

major companies in this market are ITT Electronics Services and Jermyn Holdings. Each of these large distributors has manufacturing operations as well.

Since 1970 component distributors have increased their share of direct sales from 5.1 per cent to 22.4 per cent. This gain is attributable to several factors.

First, development costs have risen a great deal, especially for integrated circuits. The components themselves are produced in high volume and sold at low prices. To remain competitive manufacturers have to exploit as many markets as possible.

Another reason is that there has been a large growth in original equipment manufacture

by a number of small companies. Distributors are better placed to serve such a fragmented and diverse set of customers. In addition, electronics is being used more and more in non-electronics-based industries such as washing machines and machine tools. Again, these are so diverse that distributors can provide a better service to customers than the manufacturers.

Finally new electronics components are introduced to the market so quickly that the rate of obsolescence is high. The new components are usually more sophisticated than their predecessors but cost the same. Manufacturers are reluctant to hold stocks of components because they lose value too quickly.

THE SEMICONDUCTOR MARKET* WORLD PICTURE, 1980

	W. Europe	U.S.	Japan	Others	Total
Population	390m	236m	120m		
GNP, \$bn	2,800	2,800	1,100		
S/C market, \$m	2,960	4,650	2,980	900	11,590
% of world	26	40	26	8	100
% growth 1979-80	10	9	12	15	10.5
S/C per capita, \$	7.60	20.30	24.80		
\$ of S/C per \$1,000 of GNP	1.10	1.80	2.70		

* Excluding systems, excluding eastern bloc.

THE SEMICONDUCTOR MARKET* W. EUROPEAN PROFILE, 1980

	W. Germany	UK	France	North	South
Population	60m	56m	54m	47m	173m
GNP, \$bn	650	380	550	500	720
S/C market, \$m	1,100	615	471	333	442
% of Europe	37	21	16	11	15
% growth 1979-80	8	7.5	11.5	8.5	12
S/C per capita, \$	18.30	11.00	8.70	7.10	2.60
\$ of S/C per \$1,000 of GNP	1.70	1.60	0.90	0.60	0.60

Source: Marketing Research Department Motorola Europe, October, 1979. * Excluding systems.

Distributors have been able to fill this niche as stockholder, risky though it is. It is not uncommon for distributors to have a quarter of sales tied up in stock at any one time, so they have to spend a lot of time on careful management of stock levels.

The distributor network has become established in the UK, just as it has in other Western European countries, the U.S. and, more recently, Japan. Distributors have a wide spread of customers, numbering tens or hundreds of thousands. They deal with several manufacturers and can even out supply and demand fluctuations and achieve much lower stock to turnover ratios than is prudent for their customers or suppliers.

In Britain the origins of electronics components distribution industry can be traced back to the post-war revival of the electronics industry. There were then only about a dozen companies whose business was the supply of valves and replacement parts for the radio industry.

By 1960 the number of distributors had grown to 25, still mainly providing maintenance and repair. One company, Radiospares, now called RS Components, successfully specialised in stocking a wide range of common components and providing rapid delivery. However, its dominant position was eroded by the mid-1960s when the number of distributors doubled again to nearly 50.

The rapid growth in distribution was coupled with the increasing use of transistors and the need for reliable sources of supply. But with newer types of transistors rapidly superseding old models many distributors were caught out because they had kept too big a stock of components which quickly became obsolete.

Some distributors bought heavy stocks of one or two types of transistors only to find they were unwanted. Those companies which had good stock control and protective agreements with manufacturers were able to survive in particular market sectors.

The large companies which dominate the market each have their particular speciality. Large distributors with a wide customer spread have been able to specialise in a component range or type of service without compromising the benefits of large-scale operation.

There are various types of distributors in the electronics industry, some of which are well respected, although buyers still tend to regard the distribution industry with a certain amount of suspicion.

Some distributors will act as purchasing agents for a company and will buy all the components that a particular custo-

mer requires. They usually have very good contacts but service a few select customers, many of which are in original equipment manufacture.

It is becoming common practice, however, for distributors to take out an agreement called a franchise with one or several component manufacturers. This started in the 1960s when manufacturers found that an increasing proportion of sales were being taken up by distributors. But distributors were found to be fickle customers, changing their allegiance with suppliers whenever a new and better product arrived on the market. Coupled with this was the demand by equipment manufacturers for other services from the distributors, such as technical advice on component suitability.

Distributors then began to ask for franchises which would enable them to provide technical assistance to customers, through the help of the manufacturer, while they were also able to maintain higher stocks of a particular manufacturer's products.

Range

Initially manufacturers were unwilling to grant franchises to a distributor who had agreements with their competitors but it is now common for a distributor to hold several franchises. This meant that he is not so dependent on one supplier and can offer customers a wider range.

Franchised distributors feel that they represent an important slice of the electronics components supply industry. They even have an organisation called the Association of Franchised Distributors of Electronic Components. AFDEC has only about 24 members but they represent some 60 per cent of sales by distributors.

Already distributors have won a considerable market away from in-house sales operations by manufacturers. Manufacturers find that it saves them time, effort and the expense of trying to win sales from a diverse set of companies. It leaves them to concentrate on large orders while distributors tackle the medium and small orders.

Forecasts are that the distributors share of the UK market will continue to grow from its level of 22.4 per cent in 1978 to 29 per cent in 1981. This will represent sales of £235m out of a total of £800m. The whole of the market for electronics components has been forecast to have a fairly modest growth over that period, although the distribution industry will be in a strong position because of the growth in the electronics industry as a whole.

Elaine Williams

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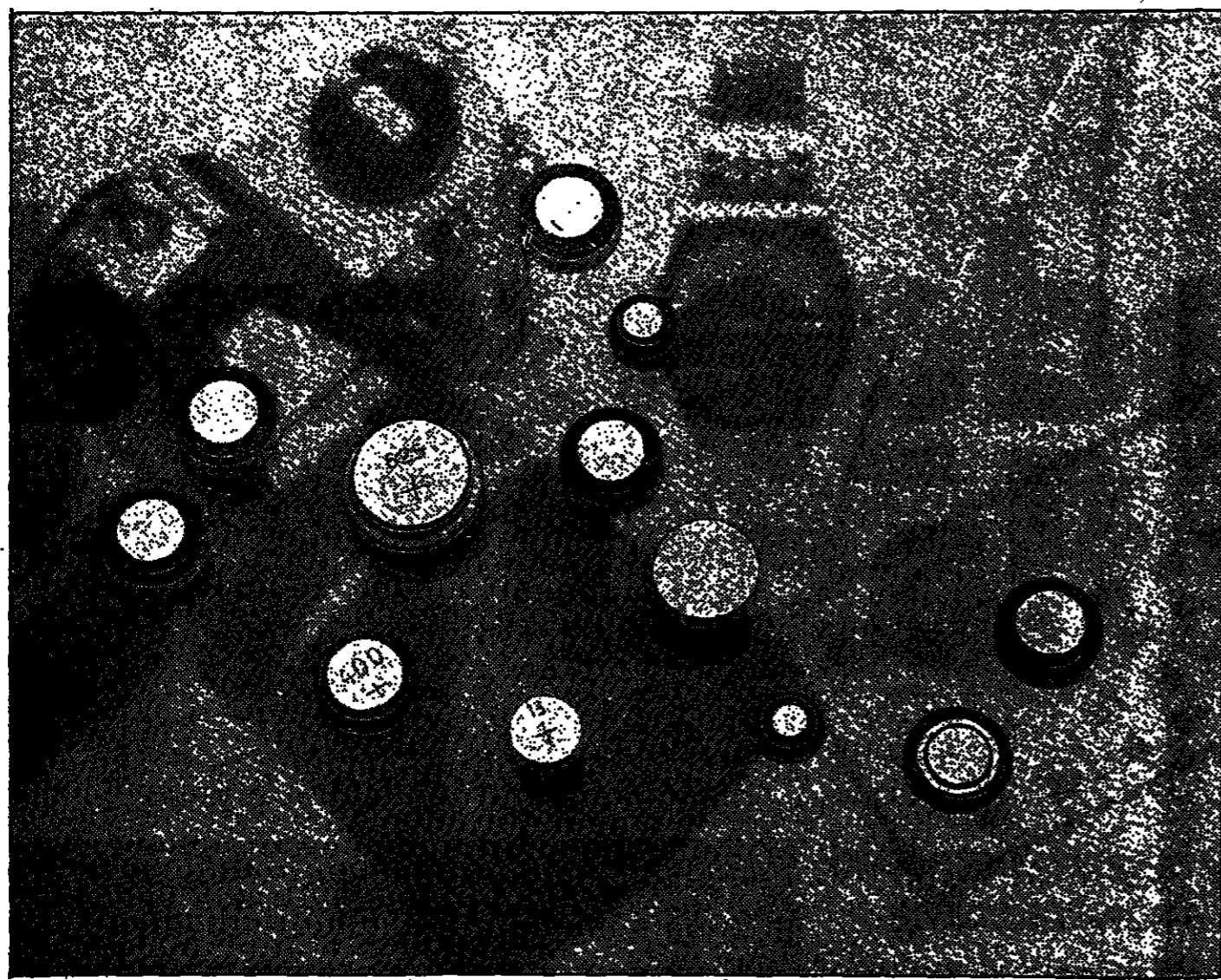
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OPTOELECTRONICS

MICROPROCESSORS are not the only glamour components of the electronics world—components which rely on light for some aspect of their operation are growing in popularity as fast as microprocessors.

These components live in the world of optoelectronics and include such devices as semiconductor lasers, light-emitting diodes used for calculator displays, and optical fibres. The largest market for these components is in telecommunications where there is a great amount of development work being carried out on the use of optic fibres—tiny hair thin strands of glass, carrying light to replace conventional copper wires for transmitting speech, television pictures and computer data.

Most countries in the world are engaged on work of this kind and the National Economic Development Council's components Sector Working Party in the UK stated that this was potentially one of the most important areas of electronics. It made recommendations last year that Government support should be given to encourage British companies to develop practical systems. However, it is unlikely that any formal help will be given to this sector in the light of government cut-backs.

However, the real profits in optic fibres are not expected to occur until the late 1980s, according to market analysts Frost and Sullivan. Demand for optic fibres is estimated to be about \$1bn worldwide which

will increase to \$60m by 1987 and then by 1992 will be worth a staggering \$170m. Much of this demand is expected to come from the provision of wired homes services such as cable television, automatic reading of electricity and other types of meters and, electronics funds transfer.

Companies such as Plessey, the General Electric Company, British Insulated Calendar Cables and Standard Telephone and Cable in the UK, Pirelli in Italy, Thomson CSF in France, Siemens in West Germany, and Corning Glass and ITT in the U.S., all have an interest in the telecommunications use of optic fibres.

Forecasts

Some forecasts estimate that this market will be worth \$120m by 1992, although it will only be worth \$32m in 1987. However, a system which used optic fibres needs other optoelectronic components as well. For example, either a tiny semiconductor laser or light emitting diode is needed at the transmitting end to generate the light over which the information is modulated.

At the receiving end, photodiodes, which are sensitive to light, convert the light into an electric current which is then converted into speech or data.

Semiconductor diode lasers which are tiny lasers made out of a material called gallium arsenide has a number of applications which lie outside the telecommunications field. For example, ITT has projects which range from missile guidance, taking measurements in industry and photocopying applications.

Other applications include intruder and fire alarms, safety

guards in machines, and in weapon simulation and ranging systems, as well as use in point of sale terminals (cash registers).

There are different types of semiconductor laser diodes which are used for a variety of applications. For example, ITT has developed a laser which produces pulses of high power, which when used in groups, called multiple arrays, can produce an optical power of 1kW. These are used in ranging, proximity fusing and weapon simulation for lower cost military training.

Another type of laser which produces high peak and mean power is used in free space optical communication links and night vision compatible infra red illuminators. Areas of applications include military and civilian use for data and voice links.

The continuous wave lasers which can work at high frequencies in excess of 1,000 MHz while giving high power, can be used with optical fibres. This type of device forms part of the telecommunications links being evaluated by companies around the world.

Existing laser diodes produce light which is in the near infra red range of 900 to 910 nm. This is the result of the use of the material called gallium arsenide. This material is widely used for the light-emitting diodes, displays which are used for digital watches and calculators.

Developments are trying to cut down the amount of power which is lost when the lasers are used with optical fibres. This enables telecommunications links to be made longer without having to boost the signal strength at frequent

intervals which cut down the cost of installing such systems. Optoelectronic devices which emit light in the infra-red are to be found in night vision cameras for security and military applications. Companies such as Thomson CSF in France manufacture cameras which can be used for high speed infra-red photography.

ITT has also been active in developments of this kind. For example, it produces devices which emit infra-red radiation and the company claims that under typical low light level conditions, the radiation from these sources can improve the resolution of night vision sights by 300 per cent.

ITT says that some of its equipment is suitable for observation and infra-red photography. Applications are expected to include history and closed circuit television.

Such devices have a wide variety of uses in industry. Another application for lasers is in audio and video discs. In these systems tiny light sources are needed so that the lasers replace the conventional stylus. Light is aimed on to the revolving record disc on which the music is digitally recorded.

Quality

The laser does not make physical contact as a diamond stylus would, so there is no disc wear, and, because of the optics, any dust, scratches or finger marks on the disc surface does not affect sound quality.

Lasers are also being used to read product bar codes—those black and white stripes which are appearing on every supermarket item. The compact size of the laser diodes enables it to be used in light pens where the operator draws the pen across the bar code. Alternatively, the laser may be mounted across a checkout point to automatically read goods which are passed by it.

In Europe, although the three main markets in military, industrial, and communications are of about equal value, each country is appearing to specialise. For example, France's major interest is in the military market, for missile guidance and proximity fusing.

Germany is involved in all three except that its military market is most developed. However, it is also involved in fibre optic communications and in photocopying and facsimile systems.

Italy has taken a significant interest in communications and industrial markets while Switzerland is progressing in the military and communications sectors. The Netherlands, dominated by Philips, is leading the industry sector with developments in optical and audio disc recording systems. Also it is a leader in pollution monitoring systems.

Finally, Scandinavia's main developments have been in missile guidances and proximity fusing, although some advances have been in control and measurements for industry.

Elaine Williams

POWER SUPPLIES

THE LAW of conservation of energy neatly reminds the engineer of the limitations of his technical arena. If work is to be done, then no matter how carefully he arranges his machines or other devices, energy must be applied at some point if activity is to take place. How that energy is fed into the vast array of electronic devices now available is clearly a vital factor in the efficient running of any electrical or mechanical system.

Although at the uncomplicated end of the power supply scale a 1.5 volt cell (a "battery" is a collection of cells joined either in series or parallel) may be adequate to provide a polarising and amplifying voltage for say, a capacitor microphone, at the other end of the scale a power supply for a relatively complex microprocessor system may require up to six independent supplies, some negative and some positive, with possibly a variable voltage facility as well.

Design

The central problems which the power supply designer has to meet are those of the safe extraction of power from, in most cases, the domestic mains electricity supply or the conversion of portable (battery) direct current power to a form which can be used in a versatile and efficient manner.

Transformers have for many years been the heart of the linear (as opposed to switched-mode) power supply. Although not restricted to power supply applications, the transformer probably appears more in this type of circuit than any other, especially following the demise of thermionic valves in radio receivers and audio amplifiers, which needed coupling transformers to match valves to loudspeakers. The appeal of the principle involved is that electrical energy can be transferred from a high voltage source to that of a controlled alternating current or direct current level (or levels) and converted into manageable quantities.

Primary and secondary windings are coupled electrically (magnetic flux) through an iron core, giving a large measure of safety to the user as there is no direct physical connection. Within the last decade or so other means of isolation have appeared, including the technique of "opto-coupling," where a light beam is modulated and made to carry electrical energy.

Switched-mode power supplies also use a transformer, but the circuit method used allows the transformer to be smaller. A fast-switching transistor (or two) "chops" the input, which may be either ac or dc (a linear supply can only function on ac). The transformed output is rectified and filtered and the

output fed to the equipment.

Advantages of switched-mode supplies include freedom from mechanical noise, approximately twice the overall efficiency of conventional supplies, about one sixth the volume and a quarter of the weight, plus savings in general cost and the ability to operate (on standard mains) with a much smaller reservoir capacitor, giving further savings.

Disadvantages of switched-mode operation include a tendency to radiate high frequency interference and a comparatively poor output ripple performance, although careful design can minimise this.

This technique is being used increasingly to supply systems in the "open frame" category of microprocessor, as well as in the versatile "powercard"

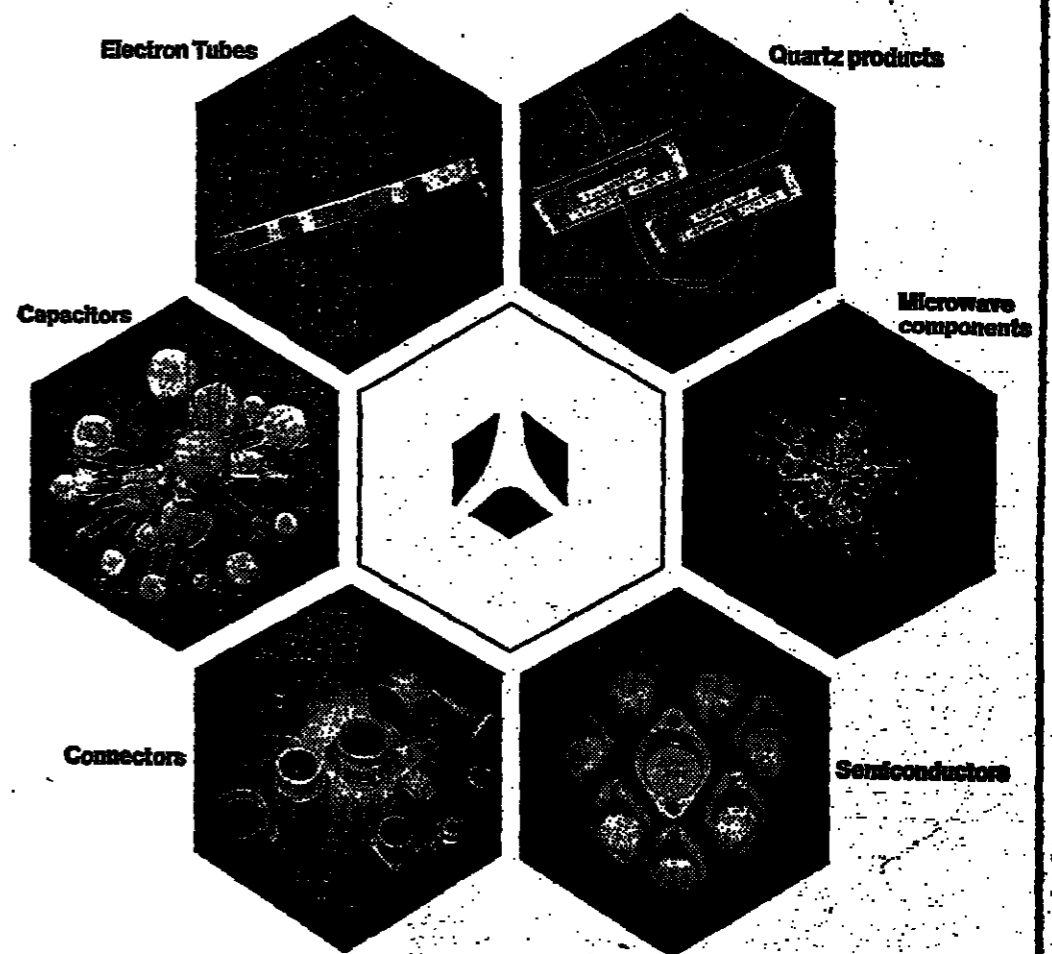
form of dc to dc converter, an ideal supply where the need is to power linear and digital integrated circuits at levels of 5V, 12V or 24V from a battery. In general, such units offer overvoltage, undervoltage and overcurrent protection—an economically sensible feature considering the cost of many processor chips.

Centralised power supplies for microprocessors are generally of the switched-mode type, and although they usually offer only three fairly inflexible supply rails, are, as with most switched-mode units, comparatively cheap.

Switched-mode supplies are also being developed for use in electron beam welding, neon lasers and X-ray electronics, all applications where their characteristically poor output regula-

CONTINUED ON NEXT PAGE

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Big improvements in design

PRINTED CIRCUIT BOARDS

THE PRINTED circuit board (PCB) has superficially at least become the poor relation of the integrated circuit in recent years. The rapid miniaturisation of the latter, and its frequent price reductions, are factors with which the PCB could not compete on a similar scale. It is the chip that has therefore dominated the headlines.

Yet enormous improvements have also been made in the design and manufacture of PCBs, producing similar results—increasing miniaturisation, greater reliability, and a much wider range of types of board, suitable for use in many more demanding environments. And it will be a long time before the PCB is made redundant in its role of connecting device with the outside world.

The PCB market's health can be gauged from the minimum growth rate predicted for it over the next two years—15 per cent—many of the leading companies expecting to increase turnover by as much as 60 per cent. The total value of the British market is expected to reach £110m by 1982, compared with an estimated £90.5m now, according to a recent survey by BPA (Management Services) of Dorking. It predicts the two biggest areas of growth will be consumer, growing from £5.5m to £12m, and communications, excluding telecommunications, growing from £18.5m to £36m by 1982.

The industry is dominated by small companies. Of the 600 or so manufacturers in Britain, only 40 have turnovers larger than £1m; ten each fall into the £1m-£1.5m and £1.5m-£2m categories, and about six have turnovers above that level, mainly subsidiaries of electronic giants such as ICL, Marconi and Plessey.

Innovation

Much of the technological innovation in PCBs comes from the United States, particularly from Photo Circuits, which specialises in research and development, preferring to leave production to others, to whom it licenses its developments. This split between research and production is typical of the independent sector of the industry. Other work is carried out principally by the world's leading electronics companies such as IBM, Philips, NEC and Honeywell, but much of this remains in-house.

The two most significant technological developments in the last few years have been miniaturisation of board components and the automation of design, and the former has accelerated the development of the latter. Now, 50 times as many components can be put on an average board compared with ten years ago and, as with the chip, the complexity has demanded auto-

matic computer routing systems to keep the connection lengths to a minimum. This is one area where the PCB is considerably more advanced than the chip, since though the chip features much more data, the design involved is often much simpler.

There are currently a few completely automatic design systems for PCBs available, but they do not yet have sufficient general application. Mr. Bob Hillier, of Racal, says: "The designer needs to tailor his own needs to his own systems and that makes it very difficult to automate the process. If you took boards of five years ago, we can now automate them, but we can't yet automate today's boards."

Mr. Hillier sees another difference in the design of PCBs and integrated circuits in the constraints of the size of the housing units. "You can vary the chip size within limits to meet your requirements, but with PCBs that's much more difficult since you have to get them into racks of a certain size."

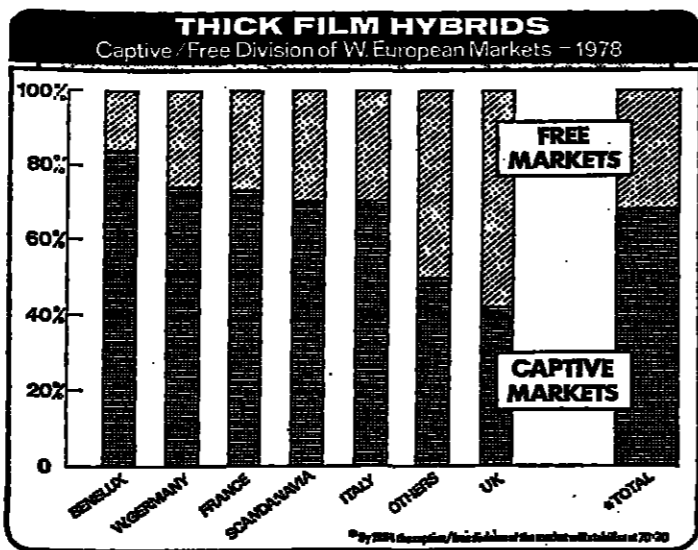
The miniaturisation of components has led to the production of stable multi-layer boards, with four-layer boards already becoming very popular in the U.S. But because the printed circuit board is used as an interconnecting device, and because electrical engineers are always seeking to reduce the number of interconnected units in a system, the actual boards have not got smaller. Mr. Bill Miller, managing director of Prestwick Circuits, one of the leading independent PCB manufacturers, thinks they have even increased in size.

The increasing sophistication of design and production techniques has demanded much higher capital investment. This poses a problem for many of the very small firms making PCBs, in a period when the cash for that investment is unlikely to be easily available.

Mr. Miller sees this as the single most important factor in the industry, above any technological developments, and one which will determine a company's success in the next few years. He attributes Prestwick's own growth rate, and that of some of its competitors, to it.

"Production equipment is on average less than three years old, and to continue to make the necessary investments we have to carry on growing at something like the present rates," he said.

Mr. Miller's message is echoed by BPA's survey, which claims that under-capitalised companies have done badly in the last year, despite the buoyancy of the market. One of the technological developments that will require this greater investment is the flexible PCB, already worth £3.7m according to BPA, and likely to reach £11m by 1982. The ability to bend PCBs has widened their use, particularly in aerospace, where space is at a premium. The cost is high, though.



The European market for thick film hybrids is likely to be one of the most significant areas affecting the printed circuit board industry in the next decade. Britain's smaller captive (that is, in-house) market is regarded as a disadvantage, since much of the technological innovation comes from the larger companies, producing in-house.

A parallel technological development with great significance for the PCB is the thick film hybrid circuit, and to a lesser extent its companion the thin film circuit. These are circuits that are deposited by screen printing on to ceramic baseboards, and effectively form a bridge between the integrated circuit on one hand and the printed circuit board on the other. Thin film circuitry has proved very difficult to produce in volume, although it gives great precision, but the thick film market is now put at between £30m and £40m, and is said to be growing at between 30 and 40 per cent a year. The telecommunications market is the major source of growth, with the military a strong second. In Europe, BPA estimates that the total market will be worth £320m by 1984.

The significance of the thick film circuit, apart from its role as chief competitor in certain areas, lies in the possibility of a future marriage between the two, according to Mr. Keith Curran of Technic. "It is very desirable to make thick film circuits which are compatible with PCBs. At the moment, the thick film circuit is simply added to the PCB, but there is a tendency to combine the versatility of shaping of the PCB with the stability and reliability of the thick film

circuit." The final logical development of this would be to incorporate the third element of the triangle—the IC—as well, something that is not happening yet but which Mr. Curran is convinced will occur soon.

The relationship between the chip and the PCB is seen by everyone to be complementary rather than conflicting. "The chip is too small to interfere with the human being," Mr. Miller says. "You have to put the chip on something and then connect it with the outside world and the PCB is a remarkably efficient way of doing that."

But he admits that there is a question mark. "In five years' time the chip may have become so clever we wonder if the PCB we are making today will still be wanted."

That doubt centres on the dominant type of PCB, the glass-plated through-hole device, which accounts for about half the British market. The complexity which miniaturisation creates may make connection by pins impractical and other techniques will be evolved.

The capital investment which is so vital now is thus not simply a case of putting money into specific production equipment. There is also the question: What sort of equipment?

David Boothroyd
Electronic Times

Versatility

CONTINUED FROM PREVIOUS PAGE

tion is not a critical factor. Whether conventional supplies or switched-mode supplies are used, there is often a need for regulation or stabilisation. This can easily be catered for by the inclusion of either a monolithic or hybrid regulator, and these are now available in chip form providing current as high as 10 amps.

Another option open to the computer system or instrument user is the custom-built power supply unit (psu) in the form of a bench instrument which provides a range of stabilised output voltages, some variable, and often at high current. This type gives a considerable margin of flexibility in powering-up, although it is on the whole a more expensive approach than the integral supply unit.

New outlets are appearing for the psu manufacturer, one of them being the CAMAC digital control system. This is a development with special relevance to automatic test equipment and will probably make use of switched-mode units driving photomultiplier high voltage generators for breakdown testing of semiconductor and passive components.

While improvements have been made in transformer design with the notable emergence of the toroidal mains transformer, featuring a low profile, making it suitable for printed circuit board mounting and a virtually undetectable magnetic field, the most efficient method of power supply is that using solar cells. Although still expensive and at the moment limited to low current applications, this is probably the most important energy crisis-related development of recent years.

Energy is, however, not directly available in the same way as from the mains. The easiest method, for example, uses solar cells to charge lead-acid batteries, and although at the moment the stored energy is only being used to power radio communications circuits, there is no reason why dc to dc converters should not be used to convert solar energy to supply digital equipment as well. The most efficient, but in some ways the most convenient, source of electrical energy is the chemical cell or battery of cells. The power from such batteries has been roughly assessed at five to six times more expensive than the mains supply, but the range of uses to which chemical cells can be put makes them attractive to the consumer. The basic Leclanché (dry) cell, or zinc/carbon type is still in wide use and remains the cheapest of the range but, as with all such cells, it provides full working potential only at the moment of switch-on—output voltage and current flow begin to fall away from the first instant of use.

With the exception of lead-acid batteries, the only fully rechargeable type is the nickel/cadmium cell. Although it offers longer life and greater energy level than the basic dry cell, additional expense is involved in providing a charger, which must be constant current unit. Furthermore, owing to the low internal resistance of the cell, they cannot be connected in parallel.

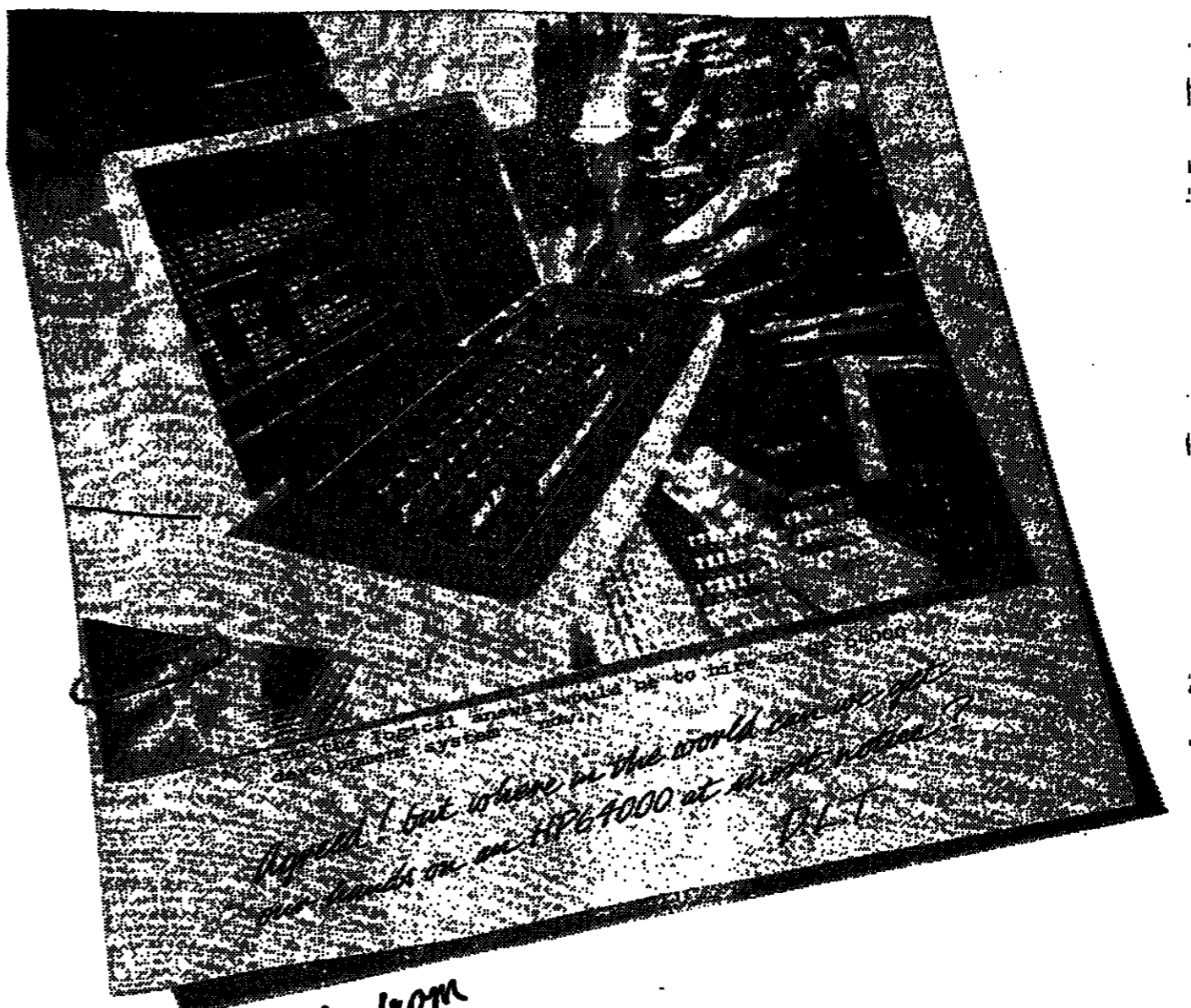
The only significant recent development in this field has been the emergence of the lithium cell. The remainder of the battery field is concentrated into sulphur dioxide/lithium (Mallory) and silver oxide. Each form has an application related to circuit demands. Mercury cells are mainly used for long, slow, low-current drain, such as in hearing aids; silver oxide where high levels of pulse activity are a typical—digital watches, cameras, and calculators using liquid crystal displays, while alkaline cells and nickel/cadmium types are used in heavier current applications such as in torches, portable instruments, tools, inspection lamps and cassette recorders.

Dominant
Although there are plenty of cheap zinc/carbon cells available in the UK, some of them of dubious quality the reliable product end of the market is still dominated by Eveready (Berec Group), Crompton Vidor and Mallory.

The main changes in the future are more likely to be in packaging of batteries rather than pure technical development, if the opinions of those in the trade are anything to go by. As MPU-based games and toys increase sales so small, boxed batteries about the same size as the well-known PP3 or PP6 will be made for them.

Batteries provide the purest form of dc current. The committed "mains-only" user, however, would be justified in pointing out that this portable power is only obtained at a premium, but as with most technical aids, it is its versatility in use which dictates the intrinsic value of any form of power supply.

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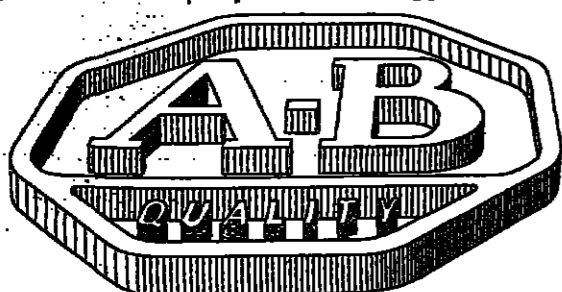
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Impressive sales increase

ACTIVE COMPONENTS

ACTIVE CIRCUITS are generally classified as linear or digital, although a third group is emerging which combine both linear and digital elements such as analogue to digital converters with the huge growth in microprocessor-based systems, mos (metal oxide semiconductor) digital ics (integrated circuits) have become the largest group and these are currently divided equally into logic and memory types. Sales of mos devices have increased to the point where 50 per cent of all ics manufactured use this technology. Bipolar digital ics now account for around 30 per cent of sales, which leaves linear devices with only 20 per cent of the market.

While semiconductor technology is advancing in all product areas, it has reached a gallop with digital mos and designers now expect a new generation of devices every two to three years. The graph shows past and predicted sales of dynamic rams (random access memory) since 1970. As can be seen, the industry has seen the wax or wane of four generations of memory within 10 years.

The 16K ram is now the most popular memory device in production and will hold that position for at least two more years. As sales have not yet peaked there is a growing fear that demand will exceed production. This feeling appears to be reinforced by Mostek, currently the world's largest producer of 16K rams, which has just reported that sales have

increased by a huge 77.5 per cent for the past 12 months. Even more impressive is a 24 per cent increase in sales over the second quarter.

Intel, the world's largest manufacturer of mos parts, has introduced the 2118, a high performance 16K device which uses their hmos (high performance mos) technology to give high speed operation—100ns, and low power consumption—150 mW, from a single 5v supply.

Although this device offers high performance and is easier to use than multiple supply types, the 2118 costs around \$10 compared with a typical price of \$5.5 for general-purpose versions. However, if the 16K demand cannot be met, any device that is available will sell despite its cost.

Significant

Another development from Intel, and far more significant, is its bubble memory package. Although this technology is in its infancy, the manufacturer reckons that bubble memories will be suitable for 10 per cent of all microprocessor applications, which represents a large market. Because conventional dynamic or static memories use transistor elements to store digital information in the form of ones or zeros, capacity is limited by the number of transistors that can be produced on a silicon chip.

Bubble memories, however, make use of magnetic bubbles in a thin ferromagnetic film, and by moving the bubbles they can be made to represent a one or zero with a much greater storage density. Another

important advantage of this technique is the non-volatile storage—if the power supply to the device fails, information within the memory is not lost as is the case with normal types.

Intel's first commercially available bubble memory is a 1M bit device organised as 128K bytes and a few pundits have proclaimed that this development will make floppy and hard disc stores obsolete within three or four years. Intel prefers to adopt a more conservative approach. Today, one bubble memory plus a set of chips to drive and control the device is priced at around £1,200 whereas a 2M bit (twice the storage) floppy disc drive and controller can be purchased for as little as £500. With hard discs the cost per bit is substantially lower.

Ferret recently introduced an eight-inch Winchester based hard disc store which is priced at around £1,000 and accommodates 20M bytes.

Although all disc drives can suffer from mechanical problems, it will be at least five years before bubble memories begin to compete seriously. For this reason they are likely to be used initially in applications where space is limited or portability is important.

Although the memory men are enjoying an avaricious market, other manufacturers are also reporting increased sales. Analog Inc., whose sales for the last year reached the magic \$100m mark is planning for a 30 per cent growth rate next year. One-third of these sales were for monolithic and hybrid digital to analogue and a to d converters. Again, the microprocessor boom has significantly increased sales of devices which convert analogue information from, for example, a flow meter in a petrol pump to an 8, 10 or 12 bit word which a microprocessor can handle. When the information is fed out it can go through the reverse process, d to a, to drive a meter movement, etc.

Analog Devices, a subsidiary of the industry's first 12 bit 5MHz a to d converter which is intended for applications such as radar digitising, digital communications or real-time spectrum analyses. Although the company feels that this is a breakthrough in high-speed conversion, it intends to improve accuracy to 14 or 16 bits during 1980.

Another subsidiary specialising in video converters is currently producing an 8-bit 20MHz a to d circuit and is developing a 10-bit 30 MHz version.

As well as converters, Analog Inc. has several i c production plants. About a year ago it introduced a new temperature transducer i c that uses the band gap principle (a parameter natural to semiconductor mate-

rial) and which produces a current proportional to temperature. As the most common measurement made is that for temperature, and a vast amount of energy is wasted in the form of heat, the potential of this £1.50 replacement for thermocouples is enormous. With this in mind the manufacturer is already developing more accurate and cheaper versions.

While the power and reliability of electronic components has not been exploited to any great extent in the British automotive industry, a great deal of development is taking place in America and West Germany. RCA is very active in this market, currently offering custom designed large scale integration (lsi) control circuits for ignition and fuel injection systems.

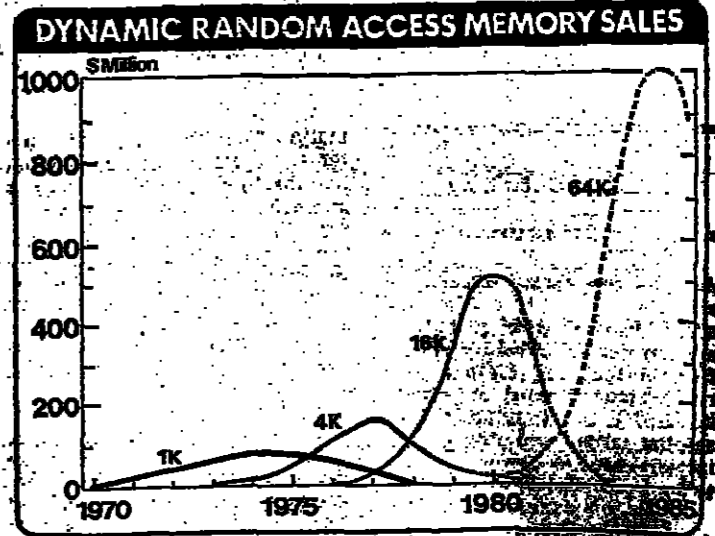
These devices use complementary mos technology which provides very low power consumption and high noise immunity, both of which are important features for automotive use. With the new exhaust emission control regulations in America and a general campaign to save energy, much more interest in electronic control has arisen and RCA is now offering a computerised lsi design facility which can reduce the turn-around time to 24 weeks.

Exports

Although many industrial markets show no signs of recession at present, several component manufacturers are not promoting their consumer products in anticipation of a slump. Plessey, however, which is currently boasting exports totalling 55 per cent of all sales and has had a 35 per cent annual growth rate for the past six years, is opposing this trend and investing most of its development funds on consumer television and telecommunications. Plessey manufactures a complete range of linear ics for pal colour television receivers and other consumer ics for touch control and infra-red or ultrasonic remote control. A recent spin-off from these devices has been a simplified remote control system for the toy market. These ics were launched in April this year and sales have already topped 1m.

Another interesting linear product is a zero-crossing power control circuit which has a temperature sensor. This device is also being marketed in the hair-drier market where there is a possibility of accidental injury or fire from overheating. The circuit operates by sensing the temperature of reflected air and controls the heating element accordingly.

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Expanding transducer market

INTERFACE DEVICES

BROADLY DEFINED, a transducer is a device which turns a signal from the outside world into an electrical signal. Any form of stimulus is viable, and there are many ways in which the output can be used to divide the classes of transducers according to how their output is used, rather than what they measure, since the same sensing device can often measure different forms of stimulus, depending upon the way the information provided by it is used.

Traditionally transducers, using the term very broadly to include electro-mechanical devices, have been used in the control of processing and manufacturing variables. There are very few parameters which the process engineer has to normally concern himself and of these heat is far and away the most commonly measured. Other useful variables to measure include flow and pressure or force.

Because traditional methods have been so firmly entrenched in the area of process control, it has seemed that, as the electronics revolution has swept through industrial and consumer goods, this area has been left far behind. That may be so, but it is because the devices which have always been used were reliable and reasonably accurate, and it was futile to concentrate upon it when other areas were more in need of innovation. This will not continue to be the case. Bestobell, which claims to be the first to have introduced the flowmeter (a device which measures liquid flow) into England from the U.S., are now looking at what they can do with the information that a flowmeter provides. It is channelled away to the control room

at present, and quite often has to be changed into more useful form—for example, rate of flow into rate of change of flow.

In cases like these, electronics hardware can be invaluable for providing information at the site of the reading. A microprocessor can work out all the variations of the basic reading and supply an answer far more quickly than old systems. We can expect to see the process control market jumping quite heavily upon the microprocessor bandwagon within the next year.

This will not affect the primary sensing device. There just has been no revolution in this area, although innovations with semi-conductors have been tried. A few years ago a strain gauge which was encapsulated in silicon was first marketed. Unfortunately, this introduced more problems than it solved because semi-conducting materials are thermally unstable.

One of the biggest problems facing the engineer designing or using transducers is that he must measure his chosen variable without any other variable in the process affecting his measurement.

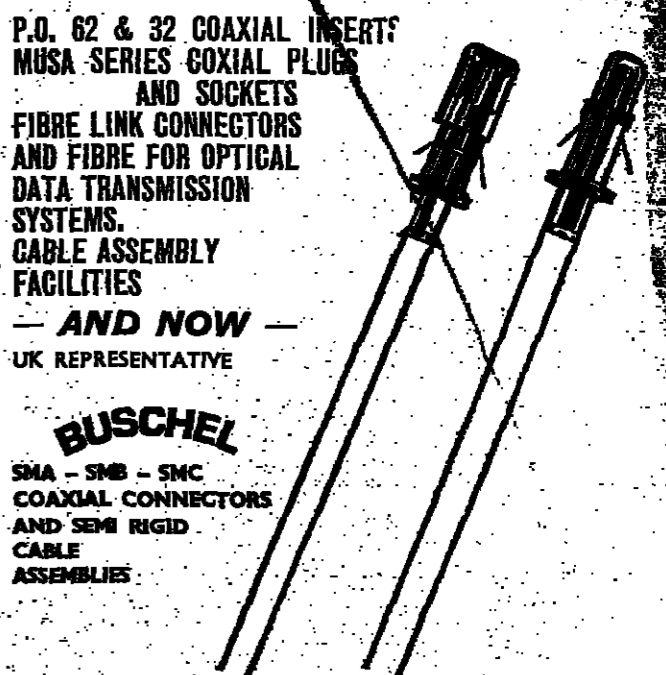
This can cause headaches, especially when a process is taking place over a large temperature range, as heat naturally affects volume and therefore pressure, density and therefore flow.

This is another reason why the transducers used at present are going to be displaced from their market stronghold only with great difficulty. They have been developed over the years to such a pitch that they are now about as independent of other variables as it is possible to make them. Any new devices will have to be not as good, but better to justify replacing the old ones.

In the area of hard electronics, the picture is very different. The field of fibre optics promises to be the most widespread application for electronic transducers in the future.

CONTINUED ON NEXT PAGE

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ELECTRONIC COMPONENTS VII

New range of special applications

PASSIVE COMPONENTS

ALTHOUGH SOME aspects of all manufacturing processes are dogged by massive inertia and others characterised by free-wheeling momentum, recent gloomy remarks emanating from the CBI concerning sagging order books in British industry do not seem to apply to the passive components.

Reference to the "passive components industry" represents a somewhat artificial distinction, due to the fact that most of the great combines now involved in manufacturing active devices, display boards, floppy discs and other items of glamorous microprocessor paraphernalia, are also the main sources of passives.

Indeed, GEC, IIT and the Philips group are all heavily committed to the concept of "make and market" right through the process, from formulation of materials to tightening nuts and bolts or joining isomilar lumps of electrical material together.

Despite forecasts of doom for the passive components element, attendant upon the positively muscular development of chip and hybrid technology as fundamental of modern method, embracing several techniques of modular fabrication, the traditional discrete component market remains healthy. The new developments in integration, rather than killing "steam radio" passives, are adding their own stylised markets, where demands of mounting space make hybrid circuits a suitable answer to pressing problems.

In the domestic market, hybrid microcircuits are taking over car radio and cassette elec-

tronics, watches, medical electronics (such as pacemakers) and look certain to change forever professional areas such as radar, pnr (private mobile radio), state communications and satellite/misile electronics. However, the complete range of passives, which may be loosely defined as circuit components whose working states are not radically altered by the application of electrical energy and includes switches, connectors, lamps, fuses, cables, and so on, as well as the perennial resistor and capacitor, remains the staple building protein of most equipment.

Individual components are essential to the DIY, electronic servicing (including television servicing) and enthusiast audio businesses, where stocks of robust single items, immediately available off-the-shelf, are required. Modules are, of course also available in the same form.

Application

New limbs of the industry are forming, with "special applications" components beginning to appear. These are extended performance (and more expensive) passives for use in unusual or critical electrical environments such as extremes of temperature or on vehicles where there is a continuous high level of vibration, moisture or dust.

One such item is IIT's KS10A aluminium electrolytic capacitor, which offers a capacitance range of 68 to 330,000 MFD, working voltage range 6.3V to 450V (dc) and a temperature range of -40 to +85 degrees C.

Previously, the upper temperature limit, relative to unfavourable output ripple, was about 65 degrees C. These qualities make it suitable for applications such as computer

power supplies or in switched-mode supplies. Such hefty characteristics would be very difficult to match in a tiny ceramic chip capacitor.

This "horses for courses" approach is supplemented by one door opening another closes, particularly in view of the continuing use and development of switched-mode power supplies themselves. The circuit technique is a very useful one, offering efficiencies of about 85 per cent compared with linear supplies operating at about 50 per cent. Unfortunately, as with most circuits using s.c.r.s or triacs, a good deal of radio frequency interference is generated. Developments in high voltage v.f.e.t.s, as well as offering the possibility of even more efficient switched-mode supplies, also offer the dubious advantage of enlarged output powers for these unofficial "transmitters." Passive components now enter the picture in the form of LC mains filters.

The implementation of ES900 (which has been lounging around in a diffident way for several years)—it became law in April this year—opens another door to passive components in this filter configuration.

The passive version gains on the cost front when compared with active band-stop filters. This particular British standard places a legal limit on the r.f.i. (radio frequency interference) which any piece of electrical equipment may emit. Whether the market for filters will be dramatically affected is debatable, but manufacturers can now make "clean environment" capital out of the inclusion of effective filters in competition with those who are prepared to risk the legal consequences of distribution without adequate suppression.

One point worth remembering is that in many areas of component production the new materials such as conductive epoxies, are being used for parallel passive and active component manufacture—thin film capacitors have been in production since the early 1960s!

There is certainly nothing mutually exclusive about the techniques involved in thick film processes and those used to make conventional passives.

In the resistor slot, the connections between the two methods are clearly seen where, for example, precision potentiometers using conductive plastic track are being produced. These are particularly suitable for control circuits in automation where developments have forced the creation of robust conventional-form passives with wider

than usual tolerance and longer life. Similarly, thick-film resistor networks show the bonding of necessity and method in passive component manufacture.

The key to the future of the passive market is like the survival of any species of mammal, adaptability, in this case geared to the changing demands of society and industry. Until the early 60s, the industry was mainly linked to methods of hand-building of equipment and circuits, but the scene is now shifting to that of automatic insertion methods, where conventional wire-ended capacitors and resistors, as well as other components, are fed by machine automatically into circuit boards. This clearly involves the re-jigging of shapes, sizes and end connections, to account for mechanical and ergonomic constraints.

The main problems related to this shift are, for manufacturers and distributors those of options; whether to concentrate on volume production and sales of, say, axial lead devices (wire-ended components such as conventional wire-wound resistors which lay flat on the mounting board) on the assumption that if the Post Office chooses a particular new form, that this could lead to large orders, especially with "System X" in the offing.

Requirements

On the other hand, although axial lead components would be suitable for cable circuits, the contractors may well decide on radial components (pcb mounting types, for example) based on their superior suitability in the frequency-critical areas of signal processing. The same points could apply to optical fibre and microwave signal processing, although one certain market has opened, for oil packaged components, i.e. the computer industry, where there are some fairly primitive (switching) requirements coupled with limited space.

Another problem is that, with modular construction forging ahead, the component count on a single-board colour tv chassis falls pretty dramatically. Despite this trend, it will be a very long time before such items as c.r.t. use connectors, coil forms and especially hefty wire-wound resistors (load dissipation in r.g.b. output stages) are rendered redundant!

At another level, innovations in data processing methods bring about further change, with some losses and some gains. The new data acquisi-

tion systems, Viewdata, Teletext and Antiope, are producing completely new marketing and manufacturing areas, with other developments such as flat-screen television on the horizon. Spiralling costs of petrol must eventually have an effect in making television games and data services that much more attractive to the harassed worker or manager, who may prefer to remain at home than venture expensively into the outside world for his entertainment or information-gathering.

Although most of these developments will mean more markets for microcircuits, linking processes will still require cables and connectors, and where conventional forms disappear, manufacturers will reorganise to produce optical fibres and optical fibre connectors—adaptation for efficiency. The humble traditional connector can still make headlines, however, as in France, where it is now a legal requirement for all exported television receivers to be fitted with a twenty-way connector for data acquisition services.

Looking to the short-term future for passives in relation to the market leaders, the figures certainly do not look depressing even after the influence of inflation. IIT, which has a 20 per cent share of the (all components) market, expects a growth rate of at least 4 per cent on passives in the coming year. Mullard (Philips group) are showing typically tight lips, but admit to selling "a million of each (capacitors and resistors) a day," and with a turnover on all components of £200m a year, the total pickings seem rich enough to keep them in business.

The fact remains that the great mass of passive components are a perennial necessity—they may well take on new forms and be put to new tasks, but connectors, switches, circuit boards, enamelled copper wire, magnet pole pieces (think of your windshield wiper motor) and a host of other hardware items—the nuts and bolts around the electronics—aren't about to fade away, just yet.

Ted Parratt

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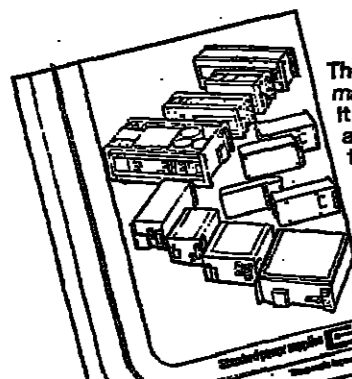
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The people in power

Transducer market

CONTINUED FROM PREVIOUS PAGE

Obviously, if in the future information is to be turned into pulses of light and transmitted down a fibre optics cable the electronics at the other end to turn this light into electrical impulses will be in great demand.

Photosensitive electronic components have been known and used for many years. Very simply they use the fact that when natural light is shone on a transistor, or diode of a certain type, it switches it on. This makes it most suited where digital (on-off) information is concerned, because the signal it provides can be used with almost no other electronics except those needed to "clean up" the signal—that is, to sharpen up the pulses.

It is here also that transducers begin to merge into other more futuristic applications.

The more sophisticated a light-detecting transducer becomes, the less of a transducer it actually is—in fact, when it can be used to detect shadows or "edges" between light and dark areas, it begins to become what is, in effect, a simple eye.

The future of the light transducer is stunning in its possibilities. They are in a primitive form at the moment but it is interesting to observe the process of evolution that such devices have undergone. Like the most simple cells, the first transducers reacted only to strong and basic environmental changes such as light, heat and chemicals. Now, thanks to greater information processing-power in the form of the micro-processor and more sophisticated sensory techniques, simple "eyes" have been developed. (This has to be qualified by saying that the most promising pattern-recognition techniques do not emulate eyes at all, but use holograms).

The fact that one form of transducer can measure a different parameter is illustrated by a device known as a shaft encoder. Basically this consists of a disc divided into segments and concentric circles. Each segment has a unique code painted on it in the form of transparent and opaque areas.

If light is then shone through this disc, photo-electric devices on the other side of the disc can detect the code and, therefore, the position of the discs. In effect, angular displacement is being measured, using a light sensitive device.

In recent years, one of the best candidates for the biggest expanding transducer market must be medical electronics. Figures are not available, but this is borne out by the fact that Hewlett Packard, one of the most important companies in the electronics market, have stopped manufacturing industrial transducers and now only produce those for use in medicine. It is a skilled field. Often the equipment is looking for minute changes of variables, therefore sensitivity and accuracy are vital.

Another factor that the transducer designer rarely has to consider is how the taking of measurements will affect the subject. In medical applications, incorrect design can destroy the cells that are being monitored.

Measurements of pressure (for example, arterial and venous blood pressures and spinal pressure, and respiratory flow are typical applications). Pressure is measured using a diaphragm technique, the latest innovation being a quartz diaphragm.

The respiratory flow systems measure air flow by differential pressure across a resistance. They basically measure rate and gas content of the patient's breath.

The most advanced techniques are applied to medical applications because it is such a demanding field. Fibre optics is also demanding—and perhaps commands more attention and finance at the moment because it is an industrial advance.

If the predictions are right that the fibre optics market will finally take off in the next year or two, then, without doubt, the larger, single use of electronic transducers will be at the fibre/receiver interface of the fibre optics link.

Philip Dwyer
Electronic Times

STRATHCLYDE the right environment for electronics.

There is already a thriving electronics industry in Strathclyde. Many international companies have established large plants in the region as a base for their European operations. Firms like IBM, Honeywell, Digital, National Semiconductor and Motorola.

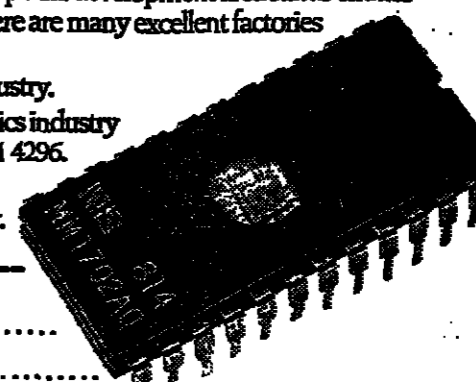
The attractions for these companies include good labour relations and high productivity records. The region has a clean atmosphere and chemically stable freshwater supplies ideally suited to the manufacture of silicon micro-processor chips. There is also an ample pool of high quality and adaptable labour throughout the region, and several institutions within the central belt of Scotland with international reputations for research and development work in micro-electronics engineering. There are two international airports linking Strathclyde with the rest of Europe and the USA. The region has excellent rail and motorway connections to the UK network.

Financial incentives are good too. Strathclyde's special development area status entitles industry to maximum UK Government assistance, and there are many excellent factories and sites readily available.

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The silicon chip illustrated (type MM1702 AQ) is manufactured in the Strathclyde Region by National Semiconductor (UK) Ltd.

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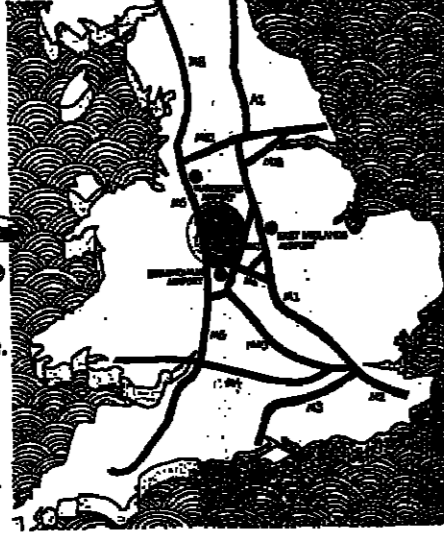
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Big spin-off from the computer industry

POWER DEVICES

WITH THE current simultaneous enthusiasm and scepticism on both sides of industry when contemplating the potential of the microprocessor, it is not surprising that other areas of electronics, in particular power, do not enjoy the same publicity as the ubiquitous silicon chip.

Despite their poor Press record, power devices account for approximately 12 per cent of all semiconductor manufacturers and therefore benefit from a healthy research and development effort. It is interesting to note that in many applications where a microprocessor forms the brain of a system, this powerful device is helpless without the brawn of power devices.

A well-known example of this is the Fiat car factory which uses computer-controlled robots in a fully automated production

line. The robots are driven by electric motors within complex servo systems and these are, in turn, controlled by power semiconductor devices which provide fast, reliable and silent operation at a fraction of the cost of their electromechanical predecessors. The enormous growth in computer systems has therefore caused a growth in the semiconductor power control business.

For a.c. power control, the most common component is the thyristor (a generic term for all four-layer switching devices). This component brought about a revolution in domestic power control with the advent of phase control light dimmers and motor speed regulators in washing machines, for example.

In industrial power control systems the silicon-controlled rectifier (s.c.r.) reigns supreme. This device only conducts current in one direction and, once triggered, can only be turned off by removing the current through the device. With alternating current, a s.c.r. turns off automatically at the zero crossing point; so, using a separate device for each half of the a.c. waveform, accurate control can be obtained with few components.

Unfortunately, not all of the parameters of a s.c.r. can be optimised at the same time. When designing a device for high current capability it is important to have a large conduction area; on the other hand, if fast switching is necessary, a more complex gate design must be used which effectively reduces the conduction area.

As high current and fast switching are not compatible, s.c.r.s are now designed for particular applications so that the important parameters can be optimised. Some large devices now in production use a 63mm silicon pellet and will switch 1500A, 3600V at 400Hz.

Capacity

When fast switching is essential, current capacity is sacrificed by using a distributed gate or interdigitated gate structure. Devices of this type can now handle 2000V and operate at 20kHz.

Another thyristor known as the triac acts as two s.c.r.s in inverse parallel to provide conduction in both directions. This device is generally reserved for a.c. control circuits which handle less than 2kW.

Because a single triac and about six other components can provide full wave control it is ideal for domestic use and, as already mentioned, domestic products such as light dimmers and electric drills already make use of this device. As the triac conducts current during both half cycles of the waveform, heat dissipation is a greater problem than with the s.c.r. For this reason two s.c.r.s are preferred in high current application.

Nevertheless, because of the simple drive circuit requirement for a triac this device is still very popular with designers. An interesting variation is a device called the quadrac which combines a triac and a trigger diode to simplify the drive requirements still further.

Conventional thyristors rely on commutation to turn them off, and they are therefore not suitable for direct current applications. This fundamental characteristic has led to the development of a gate turn-off s.c.r. for DC control. This is a four-layer device, but, unlike a conventional s.c.r., conduction can be stopped by application of a negative gate pulse.

RCA have introduced a range of devices suitable for automotive use which can switch tens of amps at several hundred volts.

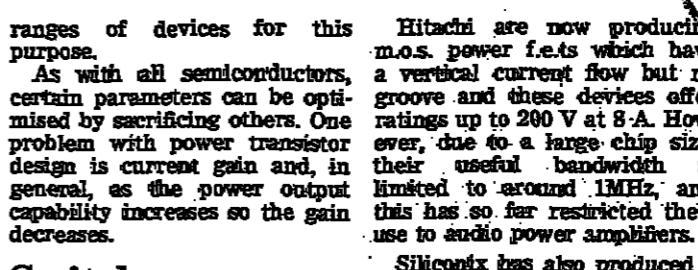
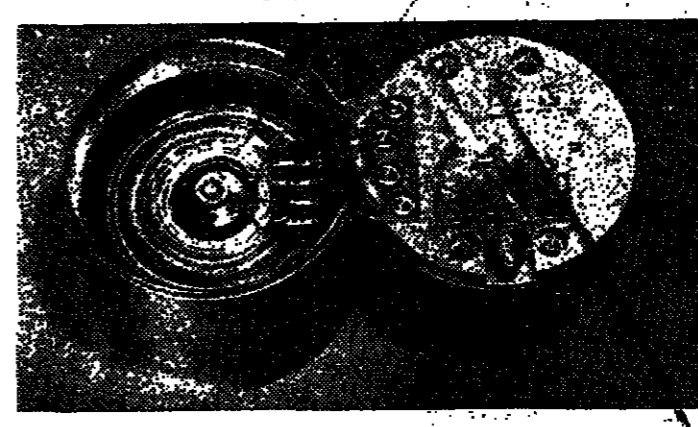
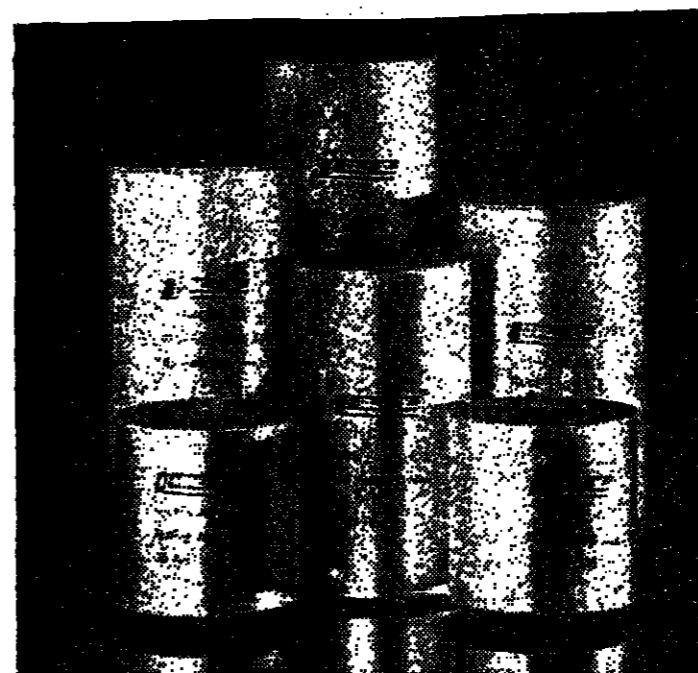
Although these specialised thyristors can be used for DC control, some manufacturers have felt that improving conventional power transistors is a better solution because they are linear devices that can be turned on and off by control of the base current.

Early power transistors were made using a simple process called single diffusion. This produces a rugged but low speed device with a maximum voltage rating of around 160V which restricts their use to areas such as audio amplification and linear power supplies.

Some recent devices, however, are constructed using a more advanced triple diffusion process. These transistors have a greatly improved voltage and current capability combined with high speed, although they are not as rugged as single-diffused types.

Westinghouse Brake and Signal Company are offering triple diffused transistors that will switch 120A at 550V and can directly control a single-phase mains supply. A 750V version is also under development for direct control of three-phase supplies.

Because bipolar transistors are substantially faster than thyristors they are highly suitable for use in switched-mode power supplies. As sales of these high efficiency supplies increase, so does the market for switching transistors and as a result several manufacturers



Despite the "un-glamorous" image of power components, strong research effort has yielded several significant developments. Examples include power transformers (above) by Thompson-CSF; left, a new film capacitor; and below, YIG-tuned transistor oscillators.

Switch

Toshiba have attempted to overcome this problem by combining two transistors in a monolithic structure. This produces a power Darlington configuration which can switch several hundred amps and still provide high gain. Switching speed is not as fast as a triple diffused transistor, but the power Darlington is still much faster than a thyristor. In Japan, such devices have been used in bridge circuits for controlling high power traction motors.

Another class of transistor is the field effect device. Until recently f.e.t.s were only available for small signal use but, because they offer several important advantages over bipolar types, several manufacturers have attacked the problems of producing high power forms.

Most of the devices now in production are so-called "V-f.e.t.s". This term describes either a vertical current flow through the device or a physical V-shaped groove for the gates of the f.e.t.

Hitachi are now producing m.o.s. power f.e.t.s which have a vertical current flow but no groove and these devices offer ratings up to 200 V at 8 A. However, due to a large chip size, their useful bandwidth is limited to around 1MHz, and this has so far restricted their use to audio power amplifiers.

Siemens has also produced a range of V m.o.s. devices which have a vertical current flow and a groove structure. This range generally offers lower power capability but has a much higher (upper limit) frequency response. A typical device can switch 1A in four nanoseconds and is therefore very suitable for r.f. amplification.

Although power f.e.t.s cannot compete with bipolar transistors at high power levels at present, they do offer several advantages—high input impedance, greater linearity, fast switching and a negative temperature coefficient—in low to medium-power applications.

As with most power devices, improvements are continually being made in voltage/current ratings and speed, but cost appears to be the main drawback at the moment. No doubt power f.e.t. technology will follow the normal cost and learning curves and these devices will eventually replace bipolar transistors in many applications.

Mike Sagin

Despite the "un-glamorous" image of power components, strong research effort has yielded several significant developments. Examples include power transformers (above) by Thompson-CSF; left, a new film capacitor; and below, YIG-tuned transistor oscillators.

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UK COMPANY NEWS

Charterhouse holders get Spring Grove stake

BY TERRY GARRETT

AN OFFER for sale by tender to Charterhouse Group shareholders is the highly unusual format for the forthcoming flotation of Charterhouse's subsidiary, Spring Grove Services. Charterhouse will be selling 60 per cent of its stake in Spring Grove, to raise between £2m and £11m. The shares will be on offer later this month to Spring Grove's 1,600 employees as well as the 18,600 ordinary shareholders in Charterhouse. The offer has been framed in this way, says Mr. P. Ralph of Charterhouse, "because the offer is of a good company and Charterhouse's own shareholders should be the ones to benefit."

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are intended or final and the sub-divisions shown below are based mainly on last year's timetable.

Interim—Elswick-Hopper, Great Portland Estates, MK Electric, Ocean Wilsons, Rotaprint, Sheffield Refractories, etc.

New chairman for Belhaven

Mr. Ronald Aitken, a partner of city accountants Binder Hamlyn, has taken over as chairman of the troubled Belhaven Brewery group. He is the fourth chairman this year and succeeds Mr. Peter Rowland, who remains on the board. The loss-making brewing, packaging and hotels group has recently been plagued by board-room rows and Mr. Arthur Clinton announced over the weekend that he was resigning his directorship. Mr. Clinton, who was deputy chairman until October this year, disagreed with the contents of a circular issued to shareholders on October 29.

The minority interest in the Forsanet Group had now been acquired and the freehold trading stock, had been sold. This eliminated the borrowings in Forsanet Property. Thermabreak, in which the group had a 20 per cent interest, was trading ahead of profit projections made at the date of acquisition, the chairman said. East Anglian Securities, Norwich-based merchant banking and investment group is 88 per cent owned by Scottish American Investment Company and Anglia Television Group.

BIDS & DEALS Wadham Stringer's trading conditions deteriorate

Wadham Stringer, the vehicle distributor, says trading conditions have become increasingly difficult since publication of the interim report on September 27. The group attributed the difficulties to increased economic uncertainties, tight monetary policy and the changes in indirect taxation. The statement is contained in an offer document concerning the proposed acquisition of Wadham by Tozer Kemsley and Millbourne. The bid is worth 70p per share and has been accepted by the Wadham Board for the 11.7 per cent of shares controlled by its member and family. TKM has also purchased 27.9 per cent of Wadham's ordinary share capital through the market.

The newly acquired shares will not rank for Wadham's final dividend for the year to June 30 1979. The consideration for the acquisition is the allotment of the vendor of 275,000 ordinary shares of £1 each, which will rank for its interim dividend to be declared in January, 1980.

ALUSUISSE AGREES TO BUY EDENLITE Alusuisse (UK), a subsidiary of Alusuisse, a major international aluminium producer, has agreed to buy from the receiver the business and some of the assets of Edenlite, a Swinton based manufacturer of aluminium greenhouses.

CONTROL RAISES STAKE IN INGALL Control Securities has acquired an investment 275,000 ordinary shares to Ingall Industries from N.V. Slavenburg's Bank, Rotterdam. With 208,500 shares already held, Control has a 9.05 per cent interest in the equity of the engineering and funeral retreating group.

Walker & Staff lower at midway

Pre-tax profits £7,000 lower at £69,000 on turnover of £1.58m against £1.26m are reported by Walker and Staff Holdings for the six months to September 30, 1979. Subject to the continuance of normal working in the manufacturing industry, the directors anticipate that turnover for the second half will show an increase on the corresponding period last year, but pressure on margins will continue. They anticipate that the dividend for the year will at least be maintained. Last year's payment was £0.675p net from profits of £214,000.

Walker & Staff lower at midway

Mr. A. Grant of Gulliver, Mr. M. A. Grant, declined to confirm or deny the reports, saying that the company "does not make a habit of commenting on rumours."

Gomme chief forecasts improvement

Improved profits are forecast for the current year by Mr. H. N. Sporborg, the chairman of Gomme Holdings, given reasonably stable economic and industrial conditions in the country generally. As reported on October 25, pre-tax profits in the year ended July 27, 1979, expanded from £1.33m to £1.9m, on turnover well ahead at £30.3m (£24.9m). The dividend is increased to 1.057p (3.37p) with a final of 3.17p.

Gomme chief forecasts improvement

The chairman says in his annual review, that although there appears to be a fall in the level of demand for furniture generally, demand for the company's G-Plan remains high. He adds that the directors are confident that a sound basis has been established, "which will enable us to achieve a faster rate of growth in the future."

East Anglian Securities sees increase

Mr. F. G. Rollason, chairman of East Anglian Securities Holdings, told the annual meeting, that since the balance-sheet date further progress was being made by all divisions and he expected profit for the year to show a substantial increase on last year's figures.

East Anglian Securities sees increase

During the year Marley sold its entire holding of shares in the company which represented 29.7 per cent of the issued capital.

Lloyd's under no threat from computer losses

SUGGESTIONS that the stability and security of Lloyd's were being threatened by the computer leasing losses being incurred were strongly refuted by Mr. Ian Findlay, the chairman. Speaking last Friday at a lunch to commemorate the 75th anniversary of Stenhouse Holdings, Mr. Findlay pointed out that the strength of Lloyd's lay in its premiums trust fund, a pool of money into which premiums were paid on claims funded. The fund was maintained in three currencies, US\$, £ and sterling. The estimated loss from computer leasing policies is US\$220m, while the latest figure

Lloyd's under no threat from computer losses

for the size of the USS component of the premium trust fund was US\$3.6m. Thus the year's interest on this fund would meet these losses. Mr. Findlay admitted that these particular losses would mean underwriting losses for some syndicates in the 1977 year. But to talk of them threatening the security of Lloyd's was ludicrous. He expressed his confidence that Lloyd's would come through these current situations quite unimpaired and would be healthier for the experience.

Wadham Stringer's trading conditions deteriorate

Wadham Stringer, the vehicle distributor, says trading conditions have become increasingly difficult since publication of the interim report on September 27. The group attributed the difficulties to increased economic uncertainties, tight monetary policy and the changes in indirect taxation. The statement is contained in an offer document concerning the proposed acquisition of Wadham by Tozer Kemsley and Millbourne. The bid is worth 70p per share and has been accepted by the Wadham Board for the 11.7 per cent of shares controlled by its member and family. TKM has also purchased 27.9 per cent of Wadham's ordinary share capital through the market.

Wadham Stringer's trading conditions deteriorate

The newly acquired shares will not rank for Wadham's final dividend for the year to June 30 1979. The consideration for the acquisition is the allotment of the vendor of 275,000 ordinary shares of £1 each, which will rank for its interim dividend to be declared in January, 1980.

Wadham Stringer's trading conditions deteriorate

Current trading prospects of Westair-Hargreave, the manufacturer of industrial air control and dehumidifying equipment, are likely to lead to audited pre-tax profits for the 11 months ending November 30, 1979, of not less than £458,000. The details are revealed in the offer document sent to shareholders by Neil and Spencer Holdings, which is planning to acquire the group for £1.7m.

Wadham Stringer's trading conditions deteriorate

The offer on behalf of Mr. S. R. Boler for the outstanding shares in Wharf Mill Furnishers has now closed. No shares have been acquired by Mr. Boler under the offer, nor were any acquired or agreed to be acquired during the offer period. Immediately before the announcement of the offer, Mr. Boler bought 1m Wharf Mill shares (83.76 per cent) at 27p each.

M. J. H. Nightingale & Co. Limited

Table with columns: 1979, 1978, 1977, 1976, 1975, 1974, 1973, 1972, 1971, 1970. Rows include: Alington, Armitage and Rhodes, Bards Hill, Deborah, etc.

E.H. LLOYD HOLDINGS LIMITED

Table with columns: Unaudited Results for 26 weeks to, Audited Results for 52 weeks to. Rows include: External Sales, Profit before Taxation, Earnings per 25p share, Dividend per share Interim.

Chairman's Comments

Group profit before tax for the half-year was £238,000, after charging £83,000 for severance payments. This drop in performance was due mainly to the redundancy costs and operating loss on all our principal foundry together with the serious effects on all our companies of the national engineering strike. After careful consideration of the current situation and despite the set-back in this half-year we intend to pay or 4th January 1980 an interim dividend of 0.5p per ordinary share.

FINANCE FOR INDUSTRY TERM DEPOSITS

Table with columns: Terms (years), Interest % (gross), Interest % (net). Rows include: 3, 4, 5, 6, 7, 8, 9, 10 years.

FT Share Service

The following securities have been added to the Share Information service appearing in the Financial Times: Chambers and Fargus (Section: Foods); Standard Telephones and Cables (Electricals).

CARCLE

The Carcle 10 1/2 per cent cumulative redeemable preference shares 1959 and the 10 per cent convertible redeemable preference shares 1959 have now been admitted to the official list by the council of the Stock Exchange. The resolution to effect the capitalisation issue of the new ordinary shares of English Card Clothing was passed at the EGM.

Public Works Loan Board rates

Table with columns: Years, Quota loans repaid, Non-quota loans A* repaid. Rows include: Up to 5, Over 5, up to 10, Over 10, up to 15, Over 15, up to 25, Over 25.

INSURANCE BASE RATES

Property Growth 13 1/2%, Vanbrugh Guaranteed 14 1/2%, Address shown under Insurance and Property Bond Table.

GROUP LOTUS CAR COMPANIES LIMITED

HALF-YEAR RESULTS

Table with columns: First Half 1979, First Half 1978. Rows include: Sales, Trading Profit before tax and extraordinary item, Trading Profit after tax and before extraordinary item, Extraordinary item, Special costs of U.S. market £210,000 after tax, Group profit after tax, Earnings per share.

Mr. A. C. B. Chapman, CBE, BSc(Eng), FRSA, Chairman, said: "Our increase of 58% of trading sales reflects the increased sales volume of Lotus products supplemented for this period by our engineering activities. Trading profit has more than doubled. The extraordinary item represents special costs relating to the US market in connection with the termination of our four independent distributors as from the end of last year. We recently announced that distribution in the USA would in future be undertaken by Rollroyce Motors Inc. these arrangements only being possible following our intervention in the market during the last nine months. I believe we have demonstrated considerable improvement in the year to date."



Abridged Particulars Application has been made to the Council of The Stock Exchange for Participating Redeemable Preference Shares of the Company to be admitted to the Official List. The Subscription Lists for the shares now offered will open at 10.00 a.m. on Thursday, 22nd November, 1979 and will close on the same day as soon after 10.00 a.m. as the Company may decide.

SELECTED MARKET TRUST LIMITED

(Incorporated under the Companies (Jersey) Laws, 1861 to 1968)

The authorised share capital of £100,100 is divided into 100 Founders' Shares of £1 each, all of which are fully paid, and 10,000,000 Unclassified Shares of 1p each which are available for issue either as Participating Redeemable Preference Shares ("Participating Shares") or as Non-Participating Redeemable Second Preference Shares.

S. G. WARBURG & CO. LTD.

on behalf of the Company

OFFER FOR SUBSCRIPTION

Participating Shares at £10 per share payable in full on application

The Company was incorporated in Jersey on 16th October, 1979, to provide a means of investing in a managed portfolio of international securities. The Fund has similar open-ended characteristics to a unit trust in that it can issue and redeem its Participating Shares at prices based on its net asset value.

A Prospectus (on the terms of which alone applications will be considered) was published in the Financial Times and the Daily Telegraph on Saturday, 17th November, 1979 and is being published in The Times on Monday, 19th November, 1979. Copies may be obtained from:

S. G. Warburg & Co. Ltd., 30 Gresham Street, London EC2P 2EB.

S. G. Warburg & Co. (Jersey) Ltd., 7 Library Place, St. Helier, Jersey, Channel Islands. James Capel & Co., Winchester House, 100 Old Broad Street, London EC2N 1BQ.

Barclays Bank Limited, New Issues Department, 2 London Wall Buildings, London EC2P 2BU. Barclays Bank Limited, P.O. Box 8, 13 Library Place, St. Helier, Jersey, Channel Islands.

CARGLO ENGINEERING GROUP LIMITED (Registered in England No. 198249) Issue of up to 2,368,095 shares of £1 each credited as fully paid to be classified as 10 1/2 per cent Cumulative Redeemable Preference Shares 1959 and/or 10 per cent Convertible Redeemable Preference Shares 1959 relating to the acquisition of The English Card Clothing Co. Limited. The Council of The Stock Exchange has admitted the above-mentioned securities to the Official List and dealings in them are expected to begin today. Particulars of the rights attaching to these securities are available in the Exel Statistical Service and copies of such particulars may be obtained during usual business hours on any weekday (Saturdays excepted) up to and including 3rd December, 1979, from: Barclays Merchant Bank Ltd., Dashwood House, 99 Old Broad Street, London EC2P 2EE. Panmure Gordon & Co., 9 Moorfields Highwalk, London EC2Y 9DS. 19th November, 1979.

National Westminster Bank NatWest announces that with effect from Monday, 19th November, 1979 its Base Rate is increased from 15 1/2% to 17% per annum. The basic Deposit and Savings Account rates will be increased from 13 1/2% to 15% per annum.

INTERNATIONAL CAPITAL MARKETS

By FRANCIS GHILES

DM issues attract attention

SHARP fall in sterling denominated bond prices following the record rise in the UK Minimum Lending Rate and a strong surge in demand for Deutsche-Mark denominated issues...

On the new issue front buying activity was stepped up after it became known that Commerzbank was bringing Gasunie, the private company which holds the monopoly for buying and selling natural gas in Holland...

The tone changed on Thursday following the completion of the Federal Governments funding programme through the successful issue of DM 4bn worth of Schuldscheine notes which offered investors yields ranging from 9 to 8.45 per cent on one-to-year paper...

CURRENT INTERNATIONAL BOND ISSUES

Table with columns: Borrowers, Amount, Maturity, Av. life, Coupon, Price, Lead manager, Offer yield. Lists various international bond issues like British Airways, Citicorp, etc.

IRAN

By JOHN EVANS

The Euromarkets falter

SOME FUNDAMENTAL processes appear to be under pressure as a result of President Carter's freeze on Iranian assets...

Members of an "equitable basis." But others dispute this, stating that many loans do not carry clauses providing for equal treatment.

MEXICO

By WILLIAM CHISLETT

A big borrower sees higher spreads

MEXICO, one of this year's most aggressive borrowers, does not expect the tightening of credit conditions in the U.S. and Japan's lower profile in international lending to have a marked effect on its sharp approach to the markets.

earnings of \$15bn, is a substantial sum. But there is no concern, at least visibly that Mexico's debt is unmanageable. The oil-rich economy is growing and will continue to grow at around 8 per cent a year with the oil itself an attractive collateral for bankers.

U.S. BONDS by DAVID LASCELLES

Crisis halts rally

THE CRISIS in Iran, and particularly the threat that Iran might refuse to accept dollars in payment for oil, brought last week's promising rally in the bond markets to an abrupt halt...

FT INTERNATIONAL BOND SERVICE

Large table with columns: DOLLAR RAUGHTS, YEN STRAIGHTS, OTHER STRAIGHTS, EUROBOOND TURNOVER, STRAIGHT BOND, FLOATING RATE, CONVERTIBLE, U.S. FRANG RAUGHTS. Contains bond market data.

Table with columns: BONDTRADE INDEX AND YIELD, EUROBOOND TURNOVER, STRAIGHT BOND, FLOATING RATE, CONVERTIBLE. Contains bond market data.

ELECTRICITE DE FRANCE U.S. \$1,000,000,000 ELEVEN YEAR EURO CREDIT FACILITY. Includes logos and contact information for various banks.

URUGUAY



BASIC STATISTICS	
Total Land Area	176,215
Total Sea Area	120,684
Population	2,861,963
Demographic Growth	1.2%
Life Expectation at Birth	74
Literacy	94.3%
Ratio of Registration for primary Schools	87%
Ratio of Registration for Secondary Schools	47%
Ratio of Registration for University	4.7%
Number of People per Doctor	1,042
Number of People per bed in Hospital	182
Annual per capita income (US\$)	1,350
Average Temperatures (in Centigrade)	Winter 12 Summer 25
Hours of Sun per year	2,927
Inflow of Tourists in last 12 months	726,000
Size of neighbouring markets (in millions of inhabitants)	
Brazil	110
Argentina	26
Paraguay	3
Bolivia	6

URUGUAY: AN EXPANDING ECONOMY

Current Situation

The Uruguayan economy has been growing, during the first half of 1979, at a rate of 8.6% in annual terms.

This is the consequence of a better use of the productive resources available in the country within the framework of a policy of liberalisation of the different sectors of the economy and the opening of the economy towards external markets.

Practically the whole of the extension of the country is arable land, suitable for agriculture and grazing, and with a very high degree of fertility. Hence, the agricultural sector provides a large part of the input for the manufacturing industries, of long-standing in the country.

However, the high degree of diversification of the industrial sector determines that this sector also has to import a large number of raw materials and intermediate goods not available domestically.

The complete freedom that exists at present regarding the inflow of all sort of goods from abroad, as well as the low rates taxing the imports of those goods allow for a fluid supply. Imports of raw materials and intermediate goods — excluding oil — represent half of the total imports.

Manufacturing industries in the last years have been growing at rates of above 5% per annum, and the rate of growth for the industrial sector as a whole reached 11.5% in annual terms, in the first half of 1979.

Uruguay has also at its disposal abundant fishing resources. Fisheries develop at an extraordinary pace (83.8% p.a. in the first half of 1979). The volume of catching during 1978 reached 70,000 tons, and the estimates for 1981 are a production of 200,000 tons.

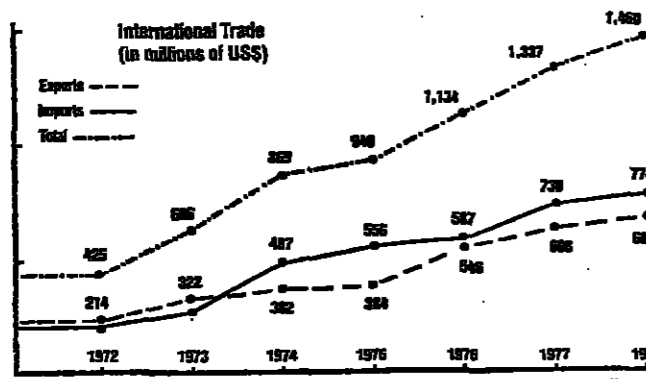
Investment and Human resources

This level of economic growth that Uruguay is registering now, is the result of efforts the country has been performing with regards to investment and general efficiency of the economy. As an average, during the last five years total investment in real terms has been 30% higher than the total investment made in the preceding five years. Investments in machinery and equipment have been facilitated by the complete liberalisation of the regime of imports implemented during the period, and the elimination of import duties on Capital goods.

As regards human resources, the volume of skilful labour force existing in the country has contributed to a very important degree in this process of growth. In the last five years total employment increased 7.3% and the labour force that has received on-the-job training has increased 43.8%.

Moreover these figures compared with the expansion registered by global production show a considerable increase in the level of productivity of the labour force.

Finally it must be emphasised that during the last five years the productive activities have been receiving an increasing volume of credit from the banking system.



Exports

The increasing rhythm of manufacturing and the fishing industry has been connected to the dynamic trend showed by exports. During the last five years, exports have been growing at the average annual rate of 17.2%.

This fact is more significant if one considers that the ratio of products with a high content of value added, to total exports has been growing constantly.

A clear example of this statement is offered by the leather industry at large. While in 1972, leather and hides represented 88% and only the remaining 12% were their manufactures, in 1978 manufactures of leather represented 79% of the total of the branch while plain leather and hides reduced their participation to 23%, in spite of the fact that the branch increased its level of activity to 40%.

The possibilities obtained to participate in the markets of Argentina and Brazil resulting from Commercial Agreements with these countries, provides Uruguay with further favourable conditions to export products to a potential market of 136 million inhabitants.

Construction

During the recent past construction has shown rates of growth higher than 10% per annum. For the first half of 1979 that rate, in annual terms, reached 17.8%.

This dynamic trend has been based both on public works related with infrastructure projects and works undertaken by the private sector.

The latter are located mainly in the capital city — both for dwellings and factories — and in its main seaside resort, Punta del Este, to cope with the increasing inflow of foreign tourists. Tourism represents an important source of foreign exchange for the country.

International Reserves

The amount of nearly 1.6 billion Dollars of international reserves in the whole of the banking system constitutes another remarkable aspect of the present situation of the Uruguayan economy. 79% of these reserves are held in gold (this gold being priced at 300 US\$ the ounce).

The level of reserves has grown during the last three years at the average annual rate of 20%, as a result of a considerable inflow of foreign capital, which during the period, increased at an average annual rate of 27.9%.

This inflow of capital relates to:

- complete freedom for financial movements,
- free access to the exchange markets,
- existing levels of interest rates both in domestic and foreign currency, which are competitive with international levels,
- freedom for the foreign investor to transfer both profits and principal at any moment,
- similar treatment for either domestic or foreign investor,
- a general climate of institutional stability, which in the end gives the support to the long continuity and permanence of the economic strategy and policies, and ensures that all the rights of the foreign investors will be respected and defended.

The solid position registered in the level of international reserves has allowed Uruguay to obtain better credit conditions in foreign markets, reflected in more favourable rates of interest and better general terms. Therefore, the country has sensibly improved the profile of its external debt and now more than 43% of its total has maturities beyond five years.

Public Sector

In the first nine months of 1979, fiscal results of the Central Government showed a surplus of 11.4% over total expenditure and the perspective is that the operations of the government will end in balance at the end of the fiscal year. This will be due to the higher degree of fiscal discipline and the increase in the levels of efficiency in public administration.

Process of Change

During the process of change of the structure of the Uruguayan economy which is under operation, and which is aiming to establish the base for a sustained growth, two main stages can be defined.

The first of them tried to overcome the stagnation of the economy and the crisis in the external sector, two factors registered during a long period before the start of this process of change.

The prevailing framework for this effort was a model of liberalisation and of a more external-orientated economy.

At present, the government considers that first stage already achieved. The economy is showing a persistent rate of growth (which, as already mentioned reaches 8.6% in annual terms for the first half of this year); the balance of payments has shown continuous surplus, with the consequent increase in the level of reserves; exports and imports have increased considerably and the latter have allowed the adequate supply of inputs and capital goods needed for the development of productive activities; and an important progress has been done in the liberalisation of the system of prices, allowing a better functioning of the free-market mechanisms.

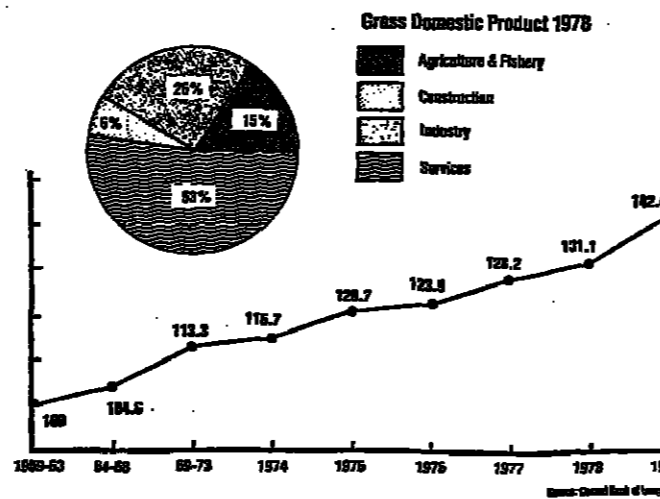
Perspectives

For the coming years it will be necessary to deepen this process, asking for a higher degree of efficiency in both the public sector and the private sector, and restructuring the factors influencing these aspects in order to bring the system to a more organic and dynamic functioning.

With regard to the private sector, the government will continue with the process started in 1974 of reducing the general level of tariffs on trade.

In this respect, a clear programme for the reduction of tariffs has been approved. This reduction will place tariffs, at the end of a period of five years, at a level compatible with the objective of defining a degree of domestic productivity similar to that existing in international markets.

As for the public sector, important achievements for a higher efficiency have already been obtained, by means of decisions tending to a better allocation and use of its resources.



The government has now under study further changes concerning the sector as a whole. During 1979 a new law has been approved containing important measures which define a global policy for public current expenditure and public investment. This will allow the elimination of fiscal deficit, as is already happening for the results of 1979.

At the same time, during the past period the tax system has been simplified both regarding taxes on domestic activities as well as on imports, and following this process of change, the government is also considering a better adequacy of the tax regime to the new structure of the economy that will emerge from the new global strategy. One of the main aspects of this future regime will be the reduction of fiscal pressure on the economy as a whole.

Inflation

There is a well known fact, specially in the economic fields, that it is impossible to achieve a large quantity of goals in the short term at the same time, since they can be contradictory at that moment.

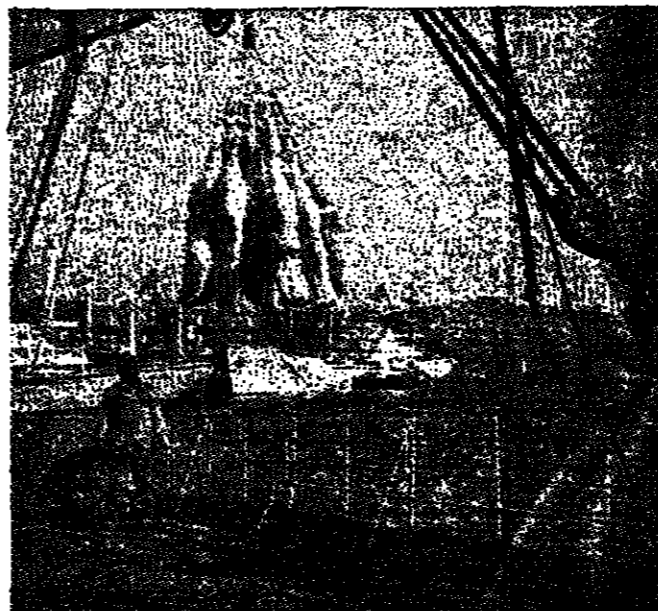
This determines the necessity of establishing an order of priorities, and the reevaluation of some of those goals as long as others are being achieved.

As it has already been pointed out, one of the priorities of the economic authorities in the recent past was the increase of the level of international reserves, in order to allow the country to place itself in a more appropriate standard in the international financial markets, and also to give the Central Bank the possibility of maintaining a policy of fixing exchange rates.

Having consideration that the rhythm of inflation would challenge in the long run the process of economic growth, a policy aiming to reduce its pace was implemented. It was based on monetary, fiscal and income discipline.

This policy rendered possible the reduction of the considerable rates of inflation registered in the past, bringing them to more acceptable levels, which nonetheless were still considered high.

It must be pointed out that during this time the objective of increasing the level of international reserves — which was given priority "vis a vis"



the reduction of inflation created problems with the expansion of the money supply and limited the achievement of lower rates.

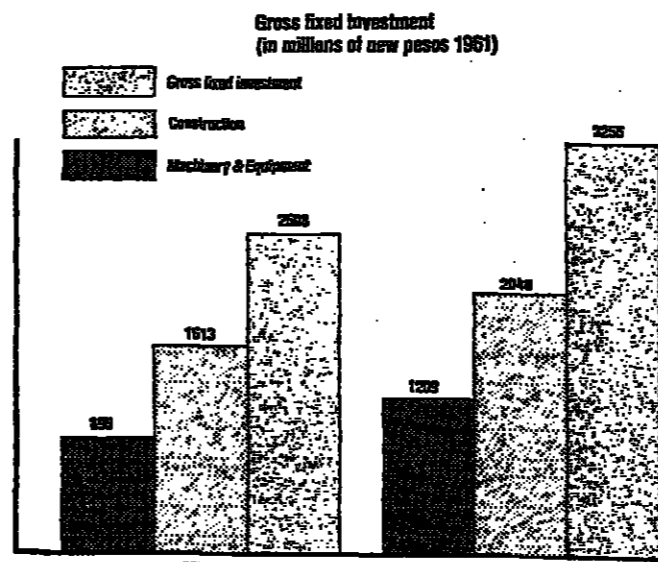
During 1979 the rhythm of inflation has once again accelerated. Different pressures originated both in domestic and foreign markets renewed expectations and further important increases in the levels of reserves made the control of the money supply very difficult hence pushing prices up.

With the establishment of a solid and sustained trend of economic growth, and having overcome the crisis in the external sector, the government has recently reevaluated the anti-inflationary objective. In this respect special attention is being given to the foreign exchange policy while the monetary and fiscal policies are orientated to keep the balance of payments in equilibrium.

The government is aware of the important role played by expectations in the behaviour of economic agents, and specially in their impact on the levels of inflation. In this respect, it has consolidated a policy aiming to assure the adequate trend of certain economic variables with important influence on the development of expectations.

MAIN ELEMENTS IN THE ECONOMIC POLICY

A sustained rate of growth in the productive sectors, a substantial increase in the levels of exports and a solid position in the balance of payments are the more notorious achievements of the present economic policy in Uruguay.



These results are accompanied by a remarkable expansion of the levels of investment, both private and public, rendered possible by the considerable increase of domestic saving and the important inflow of foreign capital.

On the other hand, the fiscal operations of the Central Government have succeeded in substantially reducing fiscal deficit, and the estimates are that the fiscal year of 1979 will show an equilibrium of the accounts.

Together with this reactivation of the economy, special importance has been given to the achievement of higher levels of efficiency both in the private and the public sector. Important progress has been already made in this direction within the framework of a model of liberalisation and of opening of the economy, which is stimulating the functioning of the mechanisms of the free market and giving the export sector a relevant role in the strategy for development.



Liberalisation, Opening of the Economy and Growth

The new model of economic development for Uruguay was meant to improve the private sector, revitalizing the instruments of the market in order to allow a more efficient allocation of productive resources.

In this respect, access to the foreign exchange market is free, anybody able to make deposits and open credits both in domestic and foreign currency.

At the same time, prices of goods and services which in the past were administered, have been gradually liberalised.

Also wages and salaries have been gradually liberalised: competitive increases determined by the government, which in the past had to coincide with those effectively granted, define at present the minimum level, being entrepreneurs able to give increases above the legal minimums.

The reactivation of the economy within the framework of an external-orientated policy follows two main considerations:

- Uruguay had registered during many years persistent stagnation of its production, as a result of the expansion of the import-substitution strategy adopted in the past. This model had orientated production to a domestic market, of reduced dimensions, within the context of high levels of protection.
- In order to stimulate the economy, it was necessary to integrate Uruguay in the international markets by means of stimulus on export-orientated productive sectors.

The result of all this process has been the reactivation of the economy in general by means of the growth of those export-orientated productive sectors, a large increase in the volume of transactions with foreign markets and the subsequent rise of the level of international reserves at the disposal of the country. This rise allows a normal supply of foreign goods and commodities and hence an improvement of the levels of investment in the different sectors.

At the same time, all the administrative procedures applied to imports have been simplified and rationalised and a general reduction of the tariff protection is in process.

In this way, domestic prices will have to come closer to international prices and therefore the sectors will have to improve in their levels of efficiency if they want to remain competitive.

Balance of Payments and International Reserves

The continuity of the growth requires an adequate supply of raw materials and capital goods, specially important because of the long period of stagnation of the economy in the past has meant a disincentive to investment and the subsequent lack of modernisation of productive sectors in terms of machinery and technology.

Given the high dependence of the country on external markets for the provision of certain basic supplies — including oil — and capital goods, the economic authorities foresaw as inevitable a deficit in the current account, which had to be financed by the capital account of the balance of payments.

This inflow had also to be increased by the needs of the development of a solid level of international reserves which should facilitate the country to join the world financial market in a more adequate way.

The implementation of the general strategy in the financial sector meant the opening of the foreign exchange market for financial purposes in 1974 that was followed in 1976 by the liberalisation of the rates of interest which therefore moved to more competitive international levels.

Role of the Public and Private Sectors

The present economic strategy of Uruguay gives an important priority to the private sector. The government intends to revitalise the mechanisms of the market which in the last instance will orientate the decisions of entrepreneurs and result in a more efficient allocation of productive resources.

Under this scheme the state has also an important role which is to create institutions able to assure a proper functioning of the market. It is not however the "paternalism" of the past and the entrepreneur will have to take his own risk.

Another two aspects to consider regarding the role to be played by the public sector in general are the needed achievement of an equilibrium in the operations of the Central Government and the increase in the levels of its efficiency, which must follow similar patterns to those demanded to the private sector.

In this latter aspect even though the government has been aware of the need of a certain period of time for this general improvement, it already has reached important targets in terms of rationalisation of public enterprises, and in the denationalisation of those enterprises the government considered out of its normal responsibilities.

With regards to the Central Government, several measures concerning fiscal discipline and administrative reorganisation have been introduced, as well as measures simplifying the tax and collecting systems.

هكذا من العمل

BUSINESSMAN'S DIARY

UK TRADE FAIRS AND EXHIBITIONS

Table listing UK trade fairs and exhibitions with columns for date, title, and venue.

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Table listing overseas trade fairs and exhibitions with columns for current date, title, and venue.

BUSINESS AND MANAGEMENT CONFERENCES

Table listing business and management conferences with columns for date, title, and venue.

The week in Parliament

TODAY

COMMONS—Civil Aviation Bill, second reading. SELECT COMMITTEES—Public Accounts; taxation of earnings of offshore employment and taxation of woodlands. Witnesses: Inland Revenue, 4.45 pm. Room 16.

TOMORROW

COMMONS—British Aerospace Bill, second reading. Charging Orders Bill. LORDS—Bail (Scotland) Bill, committee. Hypnotism Bill, committee. Short debate on energy programme and nuclear industry.

SELECT COMMITTEES—Parliamentary Commissioner for Administration. Witnesses: Commission for Local Administration in Wales, Commissioner for Local Administration in Scotland, 5 pm. Room 6.

WEDNESDAY

COMMONS—Debate on EEC Budget. LORDS—Short debate on deterioration in the use of the English language. Short debate on need for a National Youth Service. Short debate on plans to integrate chiropractic into the National Health Service.

SELECT COMMITTEES—Public Accounts. Subject: National Oil Account. Offshore Petroleum Production Licensing and Government participation. Witnesses: Dept. of Energy, 4 pm. Room 16.

THURSDAY

COMMONS—Supply day debate on subject to be announced. LORDS—Insurance Companies Bill, third reading. Milk (Extension of Period of Control of Maximum Prices) Order. Bill of Rights Bill, committee.

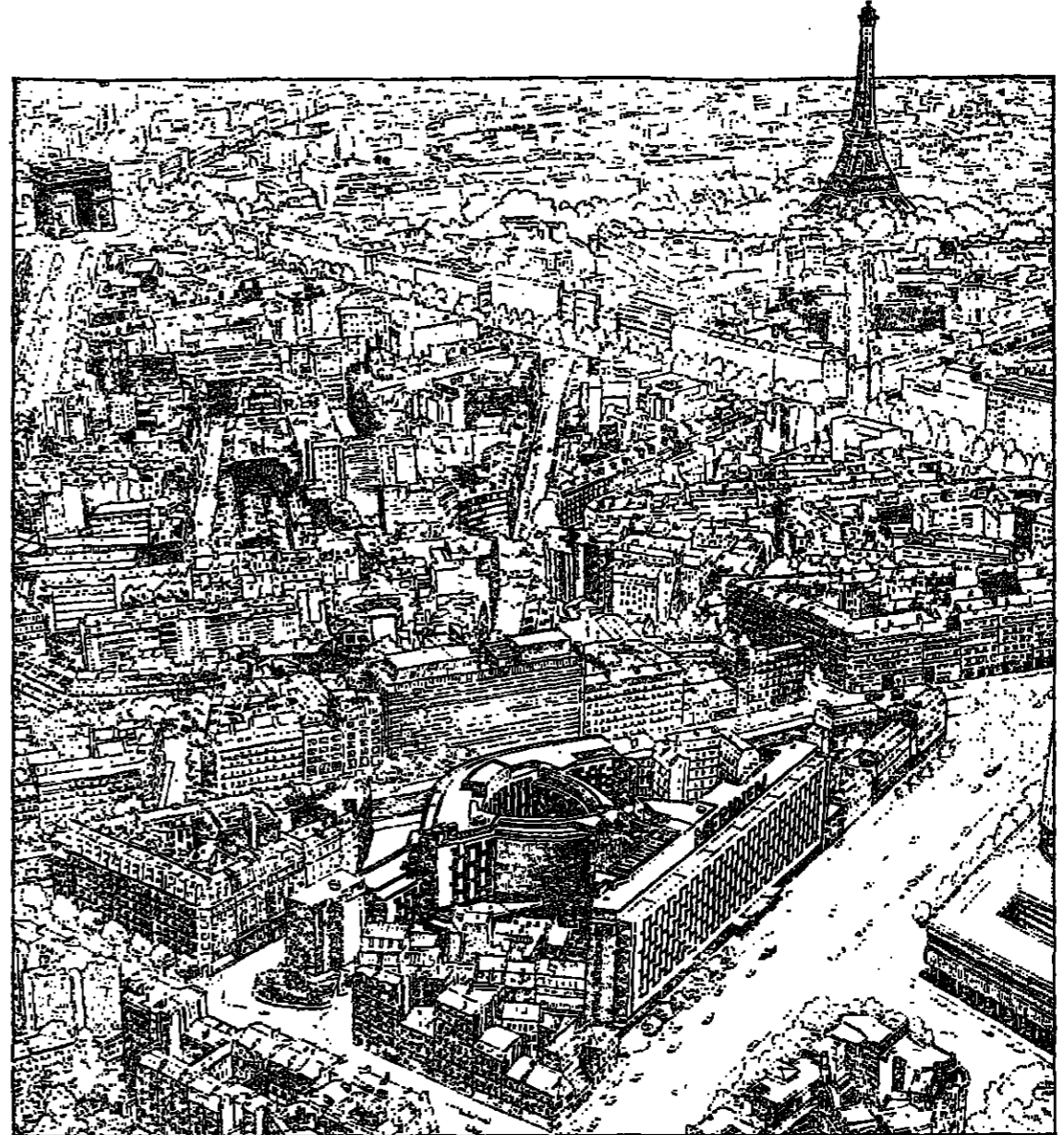
FRIDAY

COMMONS—Private Members' Bills.

Silicates plant to be built

JOSEPH CROSFIELD and Sons, the Unilever specialised chemicals subsidiary, is to build an £5m plant at Warrington to produce precipitated silicas and silicates. The additional facilities will start production in about two years time, giving Crofsfield a capacity of up to 30,000 tons a year.

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URUGUAY continued

MAIN DEVELOPMENTS OF THE ECONOMY

The international crisis which occurred in 1973 affected the country both through the general increase of the prices of imports — mainly oil — and through the reduction in the prices of beef and wool — the main items of the traditional exports of Uruguay.

Productive Activity

In face of this international situation, Uruguay decided to modify its growth strategy — which gave priority to the development of traditional activities — and placed the emphasis on the non-traditional sectors.

This figure represents an exceptional increase with regard to traditional standards of the country, which during the fifteen years from 1959 to 1973 only grew at the average rate of 0.8% p.a.

It also exceeds very significantly the relatively important average rate registered in the last five years, of 3.2% p.a.

Gross Domestic Product by Sectors

Table showing cumulative annual rates of growth by period for Agriculture, Fishery, Manufacturing, Construction, and Services from 1968-1973, 1974-1978, and 1979.

(x) First half of 1979 over First half 1978 (xx) This figure is not representative because of the irregular character of the year-base 1968, during which the production suffered an important slump with regard to the levels of preceding years.

During this process of growth, manufacturing industries, fishery and construction, developed into the most dynamic sectors. Because of its high share in total G.D.P. (20%), manufacturing was the sector with the main impact in global growth.

The approval of the Law of Industrial Promotion represented an important factor to stimulate manufacturing activities. The law grants those projects having been declared of National Interest the possibility of access to credit in more favourable terms, and the exoneration of a large part of the taxes borne by the activities in general.

Another benefit for industries was the exoneration of import duties on capital goods required by the process of investment.

The dynamics of the manufacturing sector at large was mainly based on export-oriented industries, as a consequence of the general strategy adopted. In this respect it is worth mentioning the sub-sectors of leather and hide industries, and textiles.

Also foodstuffs, rubber, chemicals, and paper were areas of high level of activity because of the increasing possibilities for their production in external markets.

Construction was another very dynamic sector, undertaking important projects both for the public sector (energy, natural roads) and private sector.

Fishery, which has been promoted fundamentally since the approval of the National Plan of Fishery Development, has been growing since 1975 in an extraordinary way. The volume of nominal catching tripled between 1974 and 1978 hence, increasing from 16,000 to 70,000 tons.

In Agriculture, during 1979 the first positive signs of the response to the measures adopted in August 1978 concerning the sector are starting to emerge, and livestock registers an annual rate of growth of 5.9% during the first half of the year.

This area of activity had not followed until now the rhythm of growth of the rest of the areas, and the main reason for its virtual stagnation was that the sector had not benefited from the general process of liberalisation implemented in other areas.

During August 1978 the government adopted a set of measures tending to eliminate the effective negative protection suffered by the sector, mainly in the area of beef production.

Basically the measures established: — liberalisation of cattle and beef; — freedom to establish slaughtering plants all around the country, for the domestic supply, exports or both; — import of tractors with the minimum import surcharge.

All these measures, together with the recovery of international prices of beef and wool which is under way will increase the levels of profitability of the sector, and this fact will stimulate further investment and successive rises in the volume of production in the medium term.

Investment

This process of economic growth which is being described has also been rendered possible through increasing levels of investment. In the last five years, the average annual amount of investment was 30% higher in real terms, than the average annual amount invested in the preceding five years.

These higher levels of investment were financed by means of both domestic and foreign capital.

Since the general liberalisation of the economy, interest rates reached higher levels and in real terms they became positive, hence stimulating domestic savings.

On the other hand positive rates on loans reallocated investment in more profitable areas, and eliminated subsidised credits which financed inefficient activities.

Deposits of the private sector in the commercial banking system constitute a good indicator of the trend of domestic savings. These deposits, in real terms, more than doubled during the last five years.

At the same time, that bigger inflow of resources to the banking system rendered possible a higher volume of credit. Hence, the total amount of credit advanced by the banking system to the private sector rose in real terms by 42%. This fact is more remarkable if one considers that more than 70% of that total amount goes to the goods producing sectors.

The option of implementing the adequate level of investment required by this process of growth meant an increased effort in domestic saving. This effort was reflected in a change in the share of consumption and investment in the total domestic demand. Consumption decreased its share of the total, from 88% in 1973 to 81% in 1977, while investment increased from 12% to 19%.

This downturn in the share of consumption reflects a deterioration in the levels of real wages and salaries, which during the same period was reduced about 20%.

This fact was one of the most important social costs on the shoulders of the society at large introduced by the changes in the economic structure.

However, the results achieved in terms of economic growth had allowed this persistent deterioration to stop and from 1978 consumption started to improve, registering an increase of 5.4% with respect to the previous year.

This effort in domestic saving was accompanied by an important inflow of foreign capital, which enjoys similar regulations that apply to domestic capital. Furthermore, the general climate of institutional stability assures that all the rights of investors will be protected and respected.

The big inflow of capitals from abroad implied an increase in the amount of foreign debt. However, at the same time and because of the dynamic trend of exports the economy saw a sensible reduction in the total debt-exports ratio.

While during the period 1969-73 external debt amounted for two and a half years of exports, in the period 1974-1978 the ratio reduced to two years and for the present year estimates are of one and a half.

At the same time during this period the profile of the foreign debt has been improving considerably, as a result of the degree of confidence existing in the international market with regard to the economic and financial situation of the country. At the end of 1973 debt with maturity beyond 5 years represented 20.8% of the total, and at the end of 1978 this net was representing 43.2%.

Together with improvement of the profile, the country has benefited from better general terms including rates of interest.

Foreign Trade

The period 1973-1978 registered a notorious improvement in the opening of the economy and the amount of transactions increased 140.9%. The increase for the period 1967-72 reached 29%.

This increase in trade is due to a rise of exports of 113.4% and a rise of imports of 171.9%.

Non-traditional exports showed the highest rhythm of performance allowing not only a bigger diversification of the sector as a whole — hence diminishing the vulnerability of the economy — but also the development of activities with higher share of value added. This, in the context of a progressive improvement in the levels of efficiency. From 1973 to 1978 non traditional exports grew 409.2%, while traditional exports remained practically unchanged. This meant a shift in the pattern of total exports, and non traditional goods which represented 27% in 1973, represented 64% in 1978.

50% of non-traditionals are constituted by hides and skins, manufactured leather, textiles and shoes. These sectors use inputs produced domestically and have grown well above the average rate.

During the period 1973-78 under consideration, textiles expanded 635.9%, shoes 1881% (the highest rate) and hides and skins and their manufactures 425.3%. It is also worth noticing that in this last item, the growth is due to the activity that incorporates more value added, that is manufactured leather, which grew 1721%.

Fishery is another very dynamic area of exports, and the volume of activity of this area represents now 5.2% of the total of non-traditional exports.

Other areas of high dynamics are citric, rice, cement, rubber tyres, chemicals, plastics, and electricals.

The growth of export activities had to be promoted by means of a regime of fiscal and credit facilities which supported their development and penetration in foreign markets, since in general they started with levels of inefficiency and had to bear at the beginning a high burden of taxes and tariffs originated in the inefficiency of the public sector.

All these facilities have been gradually reduced, since the idea has been of using them as instruments of initial promotion and not a permanent regime financing permanent inefficiencies.

Traditional exports have remained practically unchanged during 1973-78. This situation emerges from two main facts, one domestic and the other from external origin.

The external fact is the general crisis the world economy has been suffering since 1973.

The domestic fact has been the general level of stagnation registered in the agricultural sector, and which at present has been solved with the measures approved in 1978.

With regards to exports of beef, while during 1967 to 1973 prices in the international markets were continuously increasing, in 1975 and 1976 these prices suffered an important downturn.

Only from 1977 to 1978 prices started to recover partly even though in 1978 they still remained 35% below those obtained in 1974. However, the average volume of beef exports in the period 1973-78 were a bit higher than those corresponding to 1967-72.

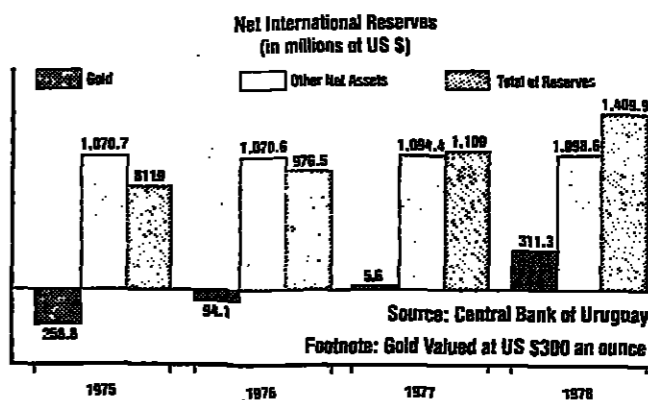
Wool suffered a similar process, and the critical year was 1975, when the downturn of prices was more than 40% of the prices of 1973. The present recovery of the level of prices has been reflected in a rise in the volume of exports at the end of the period.

As for imports, from 1973 to 1978 they showed an increase of 171.9%, compared to an increase of 23.4% from 1967 to 1972. Even though this expansion means a persistent trade deficit since 1974, it is worth noting that these deficits are largely explained by the increase in the price of oil, — which meant a quadrupling of the total amount paid for it —, as well as for the enormous increase of imports of capital goods and equipment.

In this respect it has to be pointed out that the economic authorities were aware of the increase of the deficit, which was justified by the needs of the economy to increase its level of productive equipment. Besides, the solid financial position registered in the balance of payments allowed for the existence of that deficit.

As a result, oil has considerably increased its share in the total of imports, and from US\$ 55 millions in 1973 which represented 19.3% of that total, shifted to US\$ 219 millions in 1978, which represents 28%.

Capital goods have recorded the highest increase in the period shifting from US\$ 22.3 millions in 1973 to US\$ 103.2 million in 1978. This figure is even lower than those corresponding to 1976 and 1977, given the even higher levels of imports during those two years of US\$ 117.2 millions and 137.7 millions respectively.



The deficit registered in the current account of the balance of payments has been more than compensated by the inflow of capital (from 1977 to 1978 increased 41%). This has also allowed an important increase in net international reserves.

In the years 1974 and 1975, the deterioration of the terms of trade had resulted in important losses of reserves. Since 1976, the solid situation the country has traditionally presented in terms of gold reserves has been complemented by an improvement in the amount of other reserves, both by a substantial rise of the reserve assets as well as by an important reduction of the liabilities occurred in 1978, basically as a consequence of the cancellation of financial obligations with I.M.F.

In the first half of 1979, the level of net international reserves had increased by US\$ 160 millions. Hence the total of the reserves of the banking system represented approximately two years of imports.

Public Sector

Since 1976, the Central Government has been recording permanent improvements in its operations. During the last three years, total revenues in real terms have been growing, basically as a result of more efficiency in the administration of taxes.

As regards expenditure, between 1976 and 1978 current expenditure in real terms practically have remained unchanged.

Investment expenditure, on the other hand has registered an important increase, mainly due to the hydroelectric projects and the improvement of the national roads network.

Oil related companies setting up in Scotland should head for the Middle East.

Of Scotland, of course! Because there you'll find the Tayside Region, home of quite a number of perceptive oil support companies as well as a broad spectrum of business from light engineering to pharmaceuticals, from small entrepreneurial businesses to giants, like General Accident in Perth, Low and Bonar in Dundee and Halliburton in Angus.

Most companies have come to Tayside for three reasons. Communications, environment and skilled labour.

First, the region straddles Scotland's busiest lines of communication. From here you can move to all points of the compass, by rail, by sea, and by the newly built motorway south.

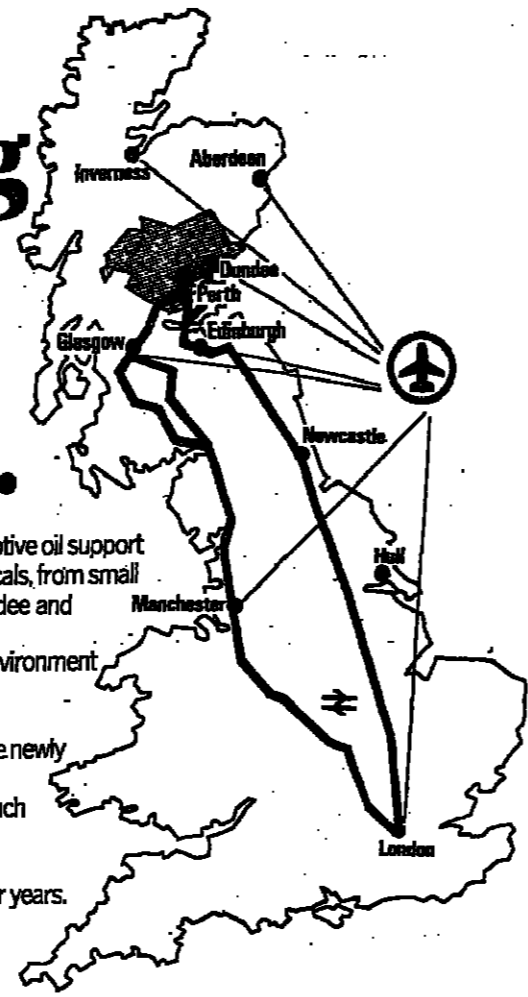
Second, not only is Tayside easy to get to, there are few places in Britain with such an equable environment in which to live and work.

Third, we have an ample supply of skilled, willing and amiable labour.

In short, Tayside offers a package that has been attracting major companies for years. We're hungry for more and, as an added incentive, parts of the region can offer substantial financial assistance to incoming businesses.

For further information write to the Development Officer.

Tayside Region Industrial Office
TAYSIDE REGIONAL COUNCIL
Industrial Office Tayside House
28 Crochton Street DUNDEE



WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The Board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last year's timetable.

TODAY
COMPANY MEETINGS—
 Helical Bar, The Institute of Chartered Accountants, Moorpark Place, E.C. 12.15
 Macmillan (Publishers), Macmillan-Glenlivet Distillery, Craigelachie, Banchory, 11.30
 Malcol (L. and J.) Paper Mills, Town Hall, Rochdale, 2.30
 Safford and Red, Gullishall, Bath, 12.00
BOARD MEETINGS—
 Australia & New Zealand Banking Corporation & General Securities
 Stockdale
 Infatimar
 Rawick-Clough
 Fortland Estates
 M.K. Electric
 Ocean
 Rogapart
 Sheffield Refreshment Houses
DIVIDEND & INTEREST PAYMENTS—
 Atlantic Energy Trust 1p
 Bowring (C.) 2.77p
 Ferry Pickering 3.025p
 Newmont 3.5p
 Manders 1.5p
 Marshall Crompton 0.525p
 Sanderson Murray and Slater 2p
 Treasury 10.5p
TOMORROW
COMPANY MEETINGS—
 Fopponer Industries, Tevesport, Winchester House, Old Broad St., E.C. 12.00
 Sharp (Charles), Boston Road, Slough, W. 10.30
 Sharpe (Charles), Boston Road, Slough, W. 12.00
BOARD MEETINGS—
 Flaxie Sundry Income Trs., Northcott Inv., Wade Prop., Int'l. Anglo American Assn., Bank of Leeds, Citicorp Inv. Trs., N.A.T., Hambros, Heath (C. E.), Metal Soc. Resources
DIVIDEND & INTEREST PAYMENTS—
 Barrow Hebern 0.5p
 Caterpillar Tractor 5.2p cents
 Exchange 12pc 1998 5pc
 Glynco Oil and J.I. 1.575p
 Macmillan-Glenlivet 3.8744p
 Manx 2.17p
 Security Pacific 4.5 cents
 Sharpe (Charles) 21.35p
WEDNESDAY 21 NOVEMBER
COMPANY MEETINGS—
 Barrow Hebern, Savoy Hotel, Strand, W.C. 12.00
 Calliford Brindley, Post House, Coventry, 12.30
 Northern Inds., Improvement Trust, Blue House, Washington, Tyne and Wear, 10.30
BOARD MEETINGS—
 Flaxie Sundry Income Trs., Northcott Inv., count, stockholders
 Leach Inv. Trs., Int'l. Allied Leather Inds., Brady Leach, Branning, Calsopole, Duple, Int'l. Paled, Northern Sec., Tel. Techn. Walker (J. O.), Woodwood
DIVIDEND & INTEREST PAYMENTS—
 Agricultural Mortgage Soc. 79-83 2pc
 Archile 1.12p
 Bot (Henry) 3p
 Buiton (A. F.) Ord. and A 0.58p
 Corp. of London 7pc 79-81 3pc. Do. 1.5p
 Sider Smith Goldborough Mort. 9 cents
 Midland Bank 6pc Floating Rate Notes 1987 58.14 cents
 Treasury 12pc 2005-05 5pc
THURSDAY 22 NOVEMBER
COMPANY MEETINGS—
 Beckman (A.), Westbury Hotel, Conduit Street, W. 12.00
 Spissals, 27 Hill Street, W. 12.00
 City of Aberdeen Land Assoc., Scotton Hotel, Guild St., Aberdeen, 12.30
 Enicars, Winchester House, 100, Old Broad St., E.C. 12.00
 Mucklow (A. and J.), Chamber of Commerce, Edgbaston, Birmingham, 10.30
BOARD MEETINGS—
 Flaxie Abroad and Southern, Brockhouse, Gleason (M. J.) Contractors, Scottish Inv. Trs., S. H. S., Agapart, Strathclyde, Beckman, C.H. Inv., Conrail, Exchange Telephone, Payments Industrial, French Kip, James (K.), Melbury, Patsy and Wilton, Powell, Buryard, Pyramid Co. (Publishers), Redland, Roscoe, Rothmans Invest, Westover Reservations
DIVIDEND & INTEREST PAYMENTS—
 Envic Developments 7.355p
 Epsom 0.77p
 Beckman (A.) 3.79p
 Exchange 12pc 1985 6pc
 Helical Bar 1p
 Housing Glynco 5pc Red 78-80 2pc
 Harding Petroleum Services 1.5p
 Prudential 3.3p
 Rowland 0.9p
 Turner and Newall Ord. Units 4.5p
FRIDAY 23 NOVEMBER
COMPANY MEETINGS—
 Beavers Brewery, Bebban Brewery, Dunbar, 2.30
 Charterhall, Institute of Chartered Accountants, Moorpark Place, E.C. 12.00
 Calliford Brindley, Post House, Coventry, 12.30
 Fairview Estates, Winchester House, Old Broad St., E.C. 12.00
 Highland Electronics, Highland House, 8, Old Broad St., Birmingham, 12.30
 Inverclyde Chamber of Commerce, 71, Market St., Glasgow, 12.30
 Lyles (C.), The Jewell Hotel, Queen St., Walswood, 12.00
 Ocean 2pc 1985 6pc
 Crows, E.C. 12.00
 Polman (R. J.), 15, Marylebone Road, N.W. 12.00
BOARD MEETINGS—
 Fisher (Albert)
 Bulmer & Lumb
 Concorde Property
 Reformation Foods
DIVIDEND & INTEREST PAYMENTS—
 Baker International 1.5 cents
 Capital and National Trust Ord. and B 4p
 Caspella 2.032p
 Citicorp Overseas Finance Gtd. Finance Note 303.47 cents
 Clive Diacom 2.12p
 Envic Developments 7.355p
 Epsom 0.77p
 Exchange 12pc 1985 6pc
 Galliford Brindley 3p
 Haden 0.75p
 Harris Greenway 2p
 Hutton Finance 1.5p
 Inshall 1.35p
 Inverclyde Chamber of Commerce 1.5p
 Laxton and Montrose Inv. Trust, Gtd. S. 1.5p
 Malcol (L. and J.) Paper Mills 2.516p
 Midland Bank 6pc Floating Rate Notes 1987 58.14 cents
 Oceana Consolidated 1p
 Royal Bank of Canada 53 cents
 Southamton Isle of Wight and South of England 4p
 Standard Telephone and Cables 2p
 Tills Commercial Invest. Gtd. 4p
 Tilling (Thomas) 3p
 Treasury 12pc 1998 5pc
 United States and General Trust 1.69p
SUNDAY 25 NOVEMBER
DIVIDEND & INTEREST PAYMENTS—
 Exchange 12pc 1985 6pc
 Greater London 12pc 1982 6pc
 Homlow Var. Rate Red. 1982 26.265p

Williams & Glyn's

Interest Rate Changes

Williams & Glyn's Bank announces that with effect from 16th November 1979 its Base Rate for advances is increased from 14% to 17% per annum.

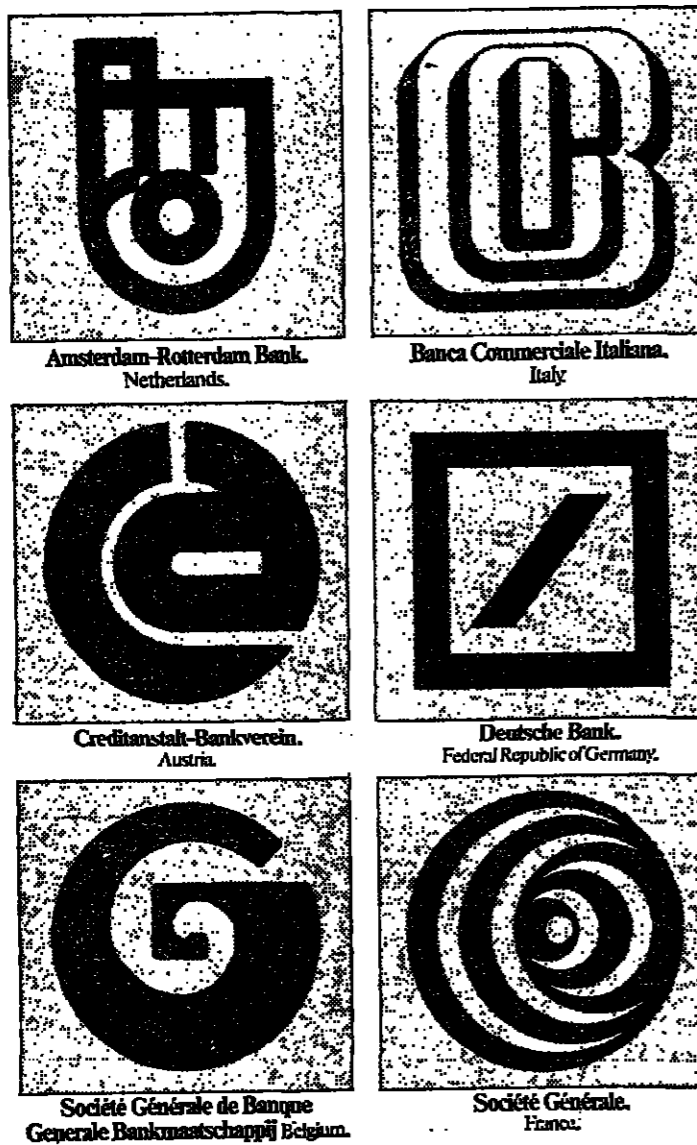
Interest on deposits at 7 days notice is increased from 11½% to 15% per annum.

WILLIAMS & GLYN'S BANK LTD

ERRATUM

Amendment to Investment Trust Table published 16th November, 1978. Carriol/Tyneside Group Col. 4 (Date of Valuation) should read 31/10/79.

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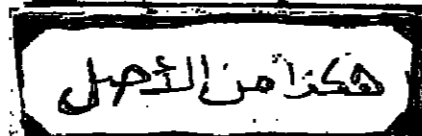
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CONTRACTS AND TENDERS

The Workers' Council of the Communal Organisation of Associated Labour for Water Supply and Sewer System "VODOVOD"—full liability company—Cacak, Vojvode Stepe Str. No. 8 is announcing

THE INTERNATIONAL PUBLIC COMPETITIVE BIDDING FOR CONSTRUCTION OF:

1. Waste water main sewer on the left bank of Zapadna Morava River, Tender U8/1
2. Pump stations "Ljubic-Polje" including force main (civil-engineering and electrical part), Tender U8/2

WORKS TO BE TENDERED:

- (1) Waste water main sewer, length 2,720 metres, of asbestos-cement pipes dia. 600 to 800mm.
 - (2) Pump Station "Ljubic-Polje" (civil-engineering part, including electricity supply and connection to the transformer station located on the right Zapadna Morava River bank) and the force main dia. 400 mm of steel pipes to be laid in the Zapadna Morava River channel, at a length of 235 metres.
- The pump units for the pump station "Ljubic-Polje" are procured by the Employer.

LOCATION:

Cacak, from Brace Kovacevica Street to the bridge on the by-pass road i.e. to the site of the future pump station, crossing the Morava River at 100 metres upstream of the existing bridge.

COST OF WORKS:

The estimated cost of the works:
 — Waste water main sewer 16,500,000.00 Dinars
 — Pump station 8,500,000.00 Dinars

TIME FOR COMPLETION

Time for completion is 210 days from the date of receipt of order to commence the works.

CLOSING DATE FOR RECEIPT OF TENDERS

The tenders will be submitted within 45 days from the date of announcing the present invitation for the international public competitive bidding in the "Yugoslav Official Register" for the tenderers from Yugoslavia, and within 45 days from the date of announcing the present invitation for international public competitive bidding in the journal "Financial Times" for the foreign tenderers.

CONDITIONS FOR ASSIGNMENT OF CONTRACT

The Tender shall be considered for assignment of the Contract if it is submitted as called for in the Tender Documents issued by the Employer, prepared fully in compliance with the instructions given in the Tender Documents and accompanied by the evidence on the company registration, references of the company, certificates on successfully completed contracts and financial status of the company for the year 1978. The time for completion of the works shall be stated in the tender.

The Employer does not bind himself to accept the lowest tender. The tenderer shall be considered more successful if he offers construction of both waste water main sewer and pump station, fixed price and shorter time for completion and if he supplies the evidence on the technical capacity of his company, available constructional plant and the qualified personnel.

RIGHT TO PARTICIPATE IN BIDDING

The right to participate in the bidding procedure goes to the companies from the countries which are the members of the International Bank for Reconstruction and Development (I.B.R.D.) and from Switzerland. The works being the subject-matter of the present international public competitive bidding shall be co-financed by the International Bank for Reconstruction and Development.

DECISION TO BE MADE

The decision on assignment of the Contract shall be made within 7 (seven) days from the date of opening of tenders. The tenders shall be opened at the Employer's offices. The exact date and hour of opening the tenders shall be communicated to the tenderers who purchased the tender documents in a due time.

DESIGN DOCUMENTS

The design documents for the works which are the subject matter of the present international competitive bidding are made out by ENERGOPROJEKT, Hydrotechnical Consulting and Engineering Division, Beograd. The design documents can be inspected at the Employer's offices on every working day, except Saturdays, from 7.00 a.m. till 3.00 p.m. Telephone information is available on telephone number 032-43-095.

TENDER DOCUMENTS

The tenders shall be received if they are made out on the tender forms provided for in the Tender Documents which can be obtained:

- At the offices of "Vodovod", Cacak, Vojvode Stepe Str. No. 8, against the charge of 5,000.00 Dinars payable to the current account of "Vodovod", Cacak, No. 61300-601-1076 held with the Government Auditing Office, Branch Office Cacak, for the tenderers from Yugoslavia, and
- At the offices of "Energoprojekt", Beograd, Zelene Venac Str. No. 18, Bureau for Industrial and Sanitary Engineering, IV floor, telephone number 011-627-522/423 against the charge of US \$ 200, payable to the current account for "Energoprojekt" No. 60811-526-28-27/30-221-10-8-1074 held with the Yugoslav Bank for Foreign Trade, Beograd, for the foreign tenderers.

FINANCIAL TIMES SURVEY

Monday November 19 1979

كتاب من الأعمال

Italian Banking and Finance

For all its alleged deficiencies, Italy's banking system has proved one of the more robust sectors of the economy. As the weight of world recession increases it is once again being asked to shoulder much of the burden.

Back to familiar crisis role

By Rupert Cornwell

THE ITALIAN economic sky is now decidedly dark. For more than 12 months, up to this autumn, the country has enjoyed a respite from the seemingly endless string of rises since the early 1970s. The lira was the early pacemaker in the newly fledged European Monetary System (EMS), the balance of payments one of the strongest in the industrialised world, trade was almost in the black, and inflation had dropped by the end of 1978 to the respectable (by Italian standards) level of 12 per cent. And all the time the economy had been gathering steam, with the growth rate this year forecast at between 4 and 4.5 per cent. Indeed the indicators at least suggested a fleeting return to be almost forgotten days of two decades back, and the original Italian "economic miracle." But the Indian summer is over, as

suddenly as it began. That the change in outlook has been so swift and in many respects so depressing is in large measure due to the fact that the inbuilt economic fallings which brought the country to its knees three years ago were merely masked, and not removed, by the brief return to virtue.

Italy faces the new oil-induced world economic slowdown, burdened by the old familiar difficulties profound social and political tensions, the entrenched evils of a swollen and often uncontrollable public sector and State borrowing requirement, and rapidly rising labour costs which erode the country's international competitiveness and keep domestic inflation at, or among, the highest in Europe.

As successive articles in this survey will show, Italy's banking and financial systems are conditioned by, and in some respects epitomise, these structural problems. But once again monetary and credit policy, applied through that same banking system, are likely to be the main weapon employed by the authorities to control the economy.

Sig. Guido Carli, the former Governor of the Bank of Italy, used to describe this method of economic management as "a bit like driving a car with only the accelerator and a brake." But the inefficiency of the country's bureaucratic and administrative machinery, and the weaknesses of so many Italian Governments, has left little choice. That state of affairs is truer than ever today.

The present Christian Democrat-led Government of Sig. Francesco Cossiga is explicitly designed to provide only a stop-gap until a more stable solution can be found. Admittedly Italy is a country where the temporary has a habit of becoming permanent, but the general dissatisfaction with the present formulas is such that Sig. Cossiga's Prime Ministerial life expectancy is unlikely to exceed six months.

Redoubts

Paradoxically though, the failure of the politicians to provide the country with a properly working government has not prevented a mounting encroachment into the banking system. The Christian Democrats, who have ruled Italy since the war, have long seen the top public sector banking jobs as key redoubts of their power.

But the intrusion moved on to a different plane last March, when the Bank of Italy itself, one of the very few institutions with any independence and a reputation to lose, itself fell victim of an onslaught whose political motivation was unmistakable. Charges were brought against both the then Governor, Dr. Paolo Baffi and his deputy director general Sig. Mario Sarcinelli, in connection with allegedly irregular subsidised loans directed to the Societa Italiana Resine (SIR) chemical group.

The accusations were denied, and indeed in September Dr. Baffi's reputation and dignity

completely unimpaired, handed over his post to Dr. Carlo Ciampi — in accordance with his previously announced intention of stepping down by the end of 1979. But it remains to be seen how much damage has been inflicted on the morale and working of the bank, which under Dr. Baffi often seemed to have dragged Italy back from the brink of financial disaster almost singlehandedly.

In terms of policy the change of Governor seems to have made little difference. The central bank, in Dr. Carli's terminology, is applying the brakes, but so far fairly cautiously. That indeed is only to be expected, now that the prime task of economic management is somehow to reconcile the need to preserve external equilibrium and currency stability by curbing inflation, with that of preventing a certain economic downturn in 1980 becoming an outright recession.

In most respects the country faces the forthcoming awkward period in much better shape than before the buffeting of 1974-1977. Externally there is room to manoeuvre. Admittedly September produced a balance of payments deficit of L589bn (\$708m), the largest for more than two years. But the out-turn for 1979 as a whole is still expected to be a surplus of \$4.5bn.

All outstanding debts to the International Monetary Fund have been cleared, and total official reserves today stand at little short of \$40bn. Although there has been some anxiety over the lira's position within the EMS, it is still faring per-

fectly respectably. Above all, perhaps, competitiveness surrendered by higher domestic inflation has been in part made good by changes in the structure of the economy. It seems highly probable that the remarkable buoyancy of Italian exports reflects the evergrowing importance of small and medium companies (some even in the notorious "submerged" or black economy), and their formidable qualities of flexibility and efficiency.

At the same time imports, usually so prone to rise sharply in times of economic expansion, have been kept under control — thanks, in some measure, it is believed by both central and commercial bankers, to more professional stocks management, often by those same small and medium-sized companies.

The upshot is that the Government is aiming for a 2.5 per cent growth rate in 1980 — barely half, it is true, that of this year, but more or less in line with the international average. That then is the bright side of the picture.

The central problem remains inflation, which after dropping to 12 per cent as an annual rate, is now running at around 1.5 to 2 per cent per month. By the end of the year the annual advance will have been 18 per cent or more, and although the budget forecasts issued on September 30 contain a target of slightly under 15 per cent for 1980, this goal may well prove over-optimistic. Higher raw material costs, especially of oil, have contributed to the spurt in prices

since the autumn but the process has been fuelled and amplified by those inherent structural weaknesses mentioned earlier. Excessive public spending, above all current expenditure, has merely injected demand into the economy, while generating little extra output. Huge sums of money are poured into chronically weak and indebted public enterprises.

Stemming from this is an enormous enlarged public sector deficit, put at L40,000bn (\$48bn) or approximately 16 per cent of Gross Domestic Product. Sig. Filippo Maria Pandolfi, the Treasury Minister and author of the short-lived plan bearing his name covering the next three years, has pledged at all costs to hold this line. But whether a government as weak as the present one will prove able to resist demands for extra spending, particularly from a more militant union movement, is clearly open to doubt. Its performance so far is not encouraging.

Undermined

But even if the deficit is held to L40,000bn the cost will be enormous. Deficit financing on this scale, coupled with the need to try to give savers a decent return, has kept interest rates much too high for much too long for the health of the economy. Massive borrowing charges have seriously undermined the finances of Italian industry, and sound private borrowers have often risked being

"squeezed" out by unsound public ones.

The absence of an effective stock market and of any mechanism to provide risk capital has meant that private borrowers have little choice but to borrow from the banks. Yet the public sector in one shape or another devours 85 per cent of total credit available. Not surprisingly, a low rate of investment and of research spending are among the most serious longer-term question marks over Italy's economic future.

Moreover, indications are that money will become even more expensive in the months ahead. Early in October the Bank of Italy raised its discount rate from 10.5 per cent to 12 per cent, partly to signal its intention to use credit policy to fight inflation but, more important, to align short-term domestic rates with those abroad, thus discouraging Italian borrowers from repaying more expensive foreign currency loans and keeping the country a sufficiently attractive home for foreign funds.

In quick succession the commercial banks lifted their own "prime rate" by 1.5 per cent to 16.5 per cent, and the central bank announced an extension of the credit ceiling on bank lending in lire which implies a moderately severe credit squeeze until the mid-eighties — assuming inflation continues at the expected pace. One consequence the central bank is hoping for is an increase in borrowing abroad by Italian corporations, which would automatically have the effect of

boosting currency reserves should the lira come under any pressure.

The money markets do not yet seem convinced, however, that the worst is over. Difficulties in disposing of all the Treasury bills on offer at the routine October auction (a mechanism roughly corresponding to Britain's gilts market) suggest that expectation of still higher rates are fairly widespread. The latest spate of international interest rate increases — in the U.S., Germany and Japan — can only reinforce this feeling.

A clearer picture will only emerge once the Washington measures to clamp down on Euro-market borrowings by U.S. borrowers takes effect. These could help take the pressure off European rates, at a time when credit demand will be feeling the first impact of the general economic slowdown and when attention is turning increasingly towards supporting demand and investment.

Italy in any case looks far better equipped to withstand any rough ride ahead than she was a few years ago. As the terms of latest Euro-market borrowings suggest, the "Italian risk" (that portmanteau word for unquantifiable dangers of political-cum-social-cum-economic breakdown once so beloved of international bankers) is no longer heard. But whether the steady increasing differential between inflation in Italy and that of its partners in the EMS will not begin to weigh heavily on the lira is another matter.

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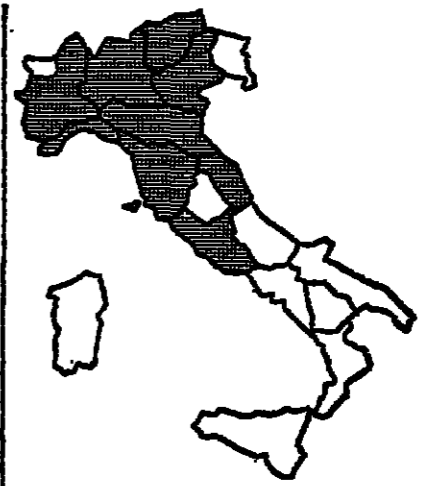
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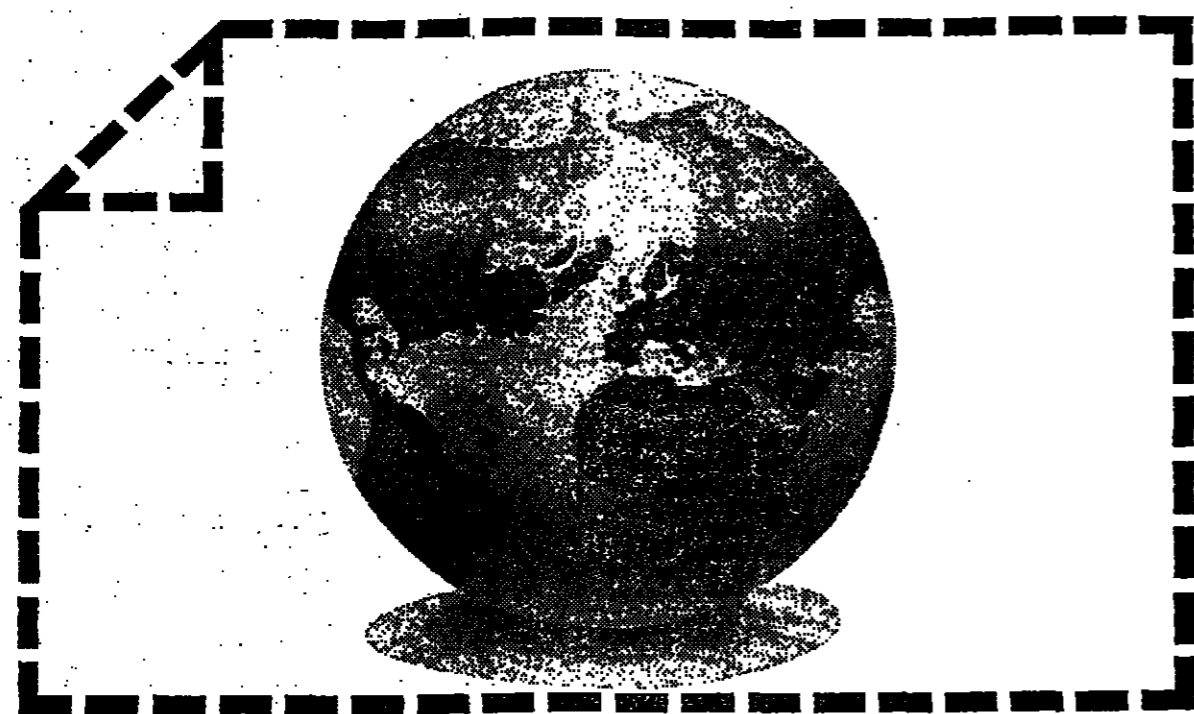
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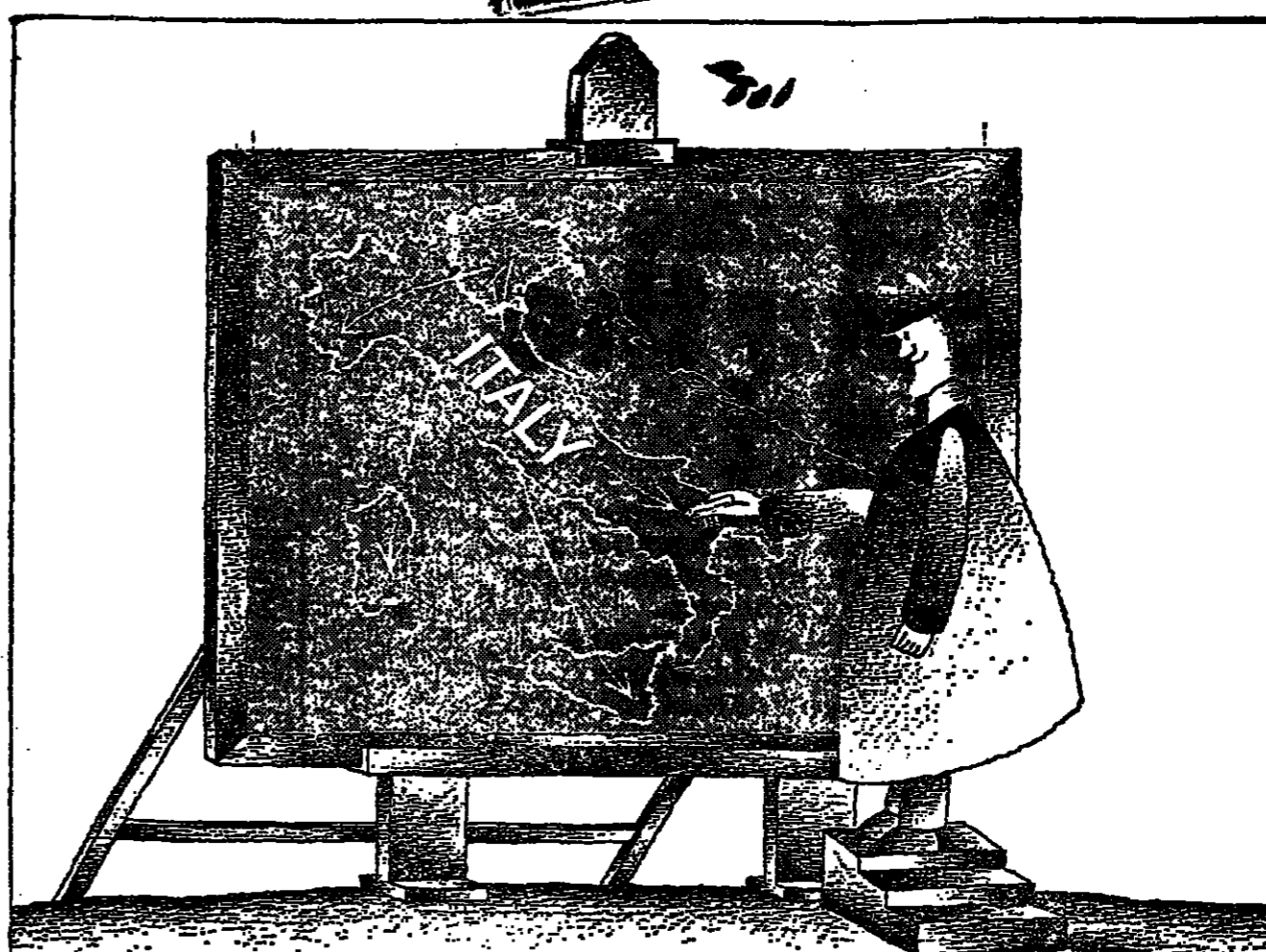
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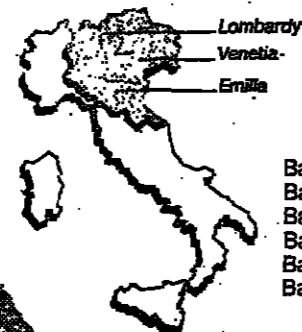
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ITALIAN BANKING AND FINANCE IV

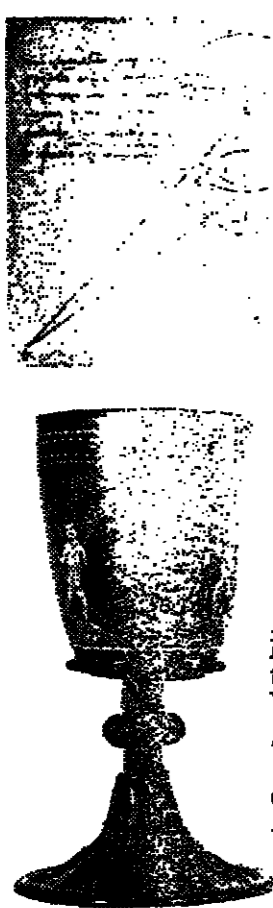
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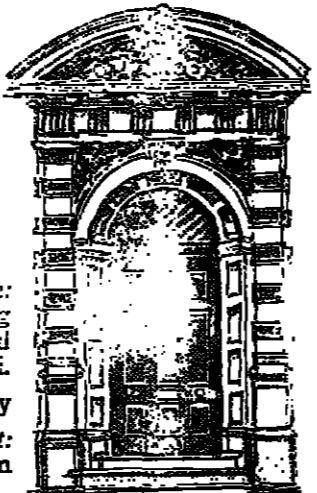
Description:
 Marble of the 'Cinderella' of the world of the woman of the world.

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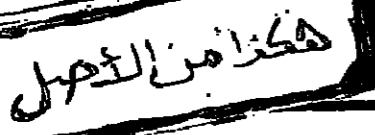
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HIGHLIGHTS FROM THE LATEST ANNUAL REPORT AS OF DECEMBER 31

(in billions of lire)	1977	1978	%
Total deposits	3.253	4.150	+ 28%
Capital and reserves	161	205	+ 27%
Total assets	6.156	7.390	+ 20%



Moves to revitalise capital market

THE MILAN Bourse has appealed to the European Community to make it possible in practice for Italian investors to buy foreign shares, particularly those of other member countries. For years the Italian stock exchanges, while providing opportunities for frequent flutters by a handful of speculators, have had little relevance to the economic life of the country. As one way of correcting this and revitalising the Milan Bourse, its president, Dr. Giorgio Aloisi de Gaspari, visited Brussels this autumn to ask for EEC intervention to get restrictions on foreign portfolio investment removed. He said recently that he was also taking the matter up with the Bank of Italy.

If an Italian wishes to buy a foreign share or bond, he has to deposit a further 50 per cent of the purchase value in lire in a non-interest bearing account with the Bank of Italy or an authorised bank. This regulation, issued when foreign exchange reserves were dwindling rapidly and defence of the lire was paramount, has effectively stopped legal Italian portfolio investment in foreign quoted companies, which see no purpose in seeking an Italian stock exchange listing. For years the British financial group of companies has been the only foreign company quoted in Milan, where it serves more as a reminder that the Bourse would still be open to companies from abroad rather than as an actively traded share.

Abolished

Now that foreign exchange reserves are high and the lira performing well in the first year of the European Monetary System (EMS), Dr. de Gaspari believes it is time to do away with the 50 per cent restriction. "We have asked the European Commission to have the deposit abolished," he said. "There is now no need for it, no reason for it any more."

The Milan Bourse, though it dominates the nine provincial bourses, is the Cinderella of stock exchanges in developed European countries. Founded in 1808 by the Viceroy Eugene Napoleon, it lists only 164 equities. Between the end of 1974 and 1978 the number of joint stock companies increased from 49,962 to 62,250. Yet its quoted companies fell from 153 to 143. In these times of mounting inflation, expected to rise to a 19 to 20 per cent annual rate by

the end of the year, the need has seldom been felt more strongly for an effective channel for equity investment as a means of preserving capital savings. Yet, though successive Christian Democrat Governments have made repeated promises of radical reform to make the Bourse accessible to the general public, practice has fallen far short of promise.

Steps

Some limited steps have been taken. Last year Sig. Filippo Maria Pandolfi, now the Treasury Minister, introduced an income tax credit on dividends, abolishing the double taxation of company and dividend revenues. The tax on interest from bank deposits was reduced from 18 to 20 per cent, reducing the differential with the generally higher tax incidence of dividends. A *mercato ristretto*, or over the counter market, was also set up in 1978. In Milan it now lists 27 shares, mostly small banks, including Creditwest, a joint venture between Credito Italiano and Britain's National Westminster.

A decree was issued this summer to define the role of Consob, the Government-appointed Bourse supervisory commission, which since its foundation has been the object of widespread criticism. Its image fell into ridicule nearly a year ago when the then Prime Minister, Sig. Giulio Andreotti, appointed a friend, a personality from the cinema and striptease world appropriately named Pazzi (madmen) as one of Consob's commissioners — an action which brought the resignation in protest of the Milan Bourse president, Christian Democrat Senator, Urbano Aletti. Consob however, still sits in Rome, 400 miles out of touch with the Milan Bourse.

Some of the impediments which have condemned Italian stock exchanges to the sidelines have existed for decades and are unlikely to be removed in a few years. The greater part of share trading takes place directly between banks or outside the floors of stock exchanges. Stockbrokers, of whom there are 104 in Milan and in the smaller provincial exchanges—sometimes just one or two—are public servants who technically act as individuals and are not allowed to form partnerships. Nor are they

allowed to hold stock on their own account but must always act on orders of clients, though in practice this regulation has not always been observed.

Milan's insignificance by international standards has been underlined in a comparative study of the size and activities of the EEC stock exchanges made for the Milan stockbrokers executive committee. It observes that the general difficulties in financing enterprises with capital in the Western world are all the more marked in Italy because of a series of technical factors which have brought Italian bourses to a state of chronic crisis. The study lists four:

● The lack of new listings. Companies have shied away from seeking quotations because of the Government's tax discrimination against stock capital and its favouring of concessional credits as well as because of falls in equity prices. (At the beginning of November the Banca Commerciale Italiana overall index for Milan, taking 1972 at 100, was in the region of 86.)

● The abnormal development of the bond market because of the exceptional expansion of public debt.

● The failure to internationalise Italian bourses—a failure which Dr. de Gaspari is trying to remedy.

● The instability of equity prices because of bad functioning and organisation of the stock market.

After noting that the first three factors result from national economic policy, the study admits that excessive instability tends to discredit the Bourse. There is no lack of proposals, it comments, for a modern reorganisation of stock markets which could be put into effect relatively quickly. But it is necessary for the political forces, solicited by initiatives at European Community level, to perceive finally the urgency of taking such steps.

Tables in the study based on EEC data show how Milan trails behind even Copenhagen in the number of companies with listed equities (in 1977 the figures were 155 and 249 respectively), though both pale into insignificance behind the more than 3,000 companies quoted in the UK and Ireland. To give an idea of each stock exchange's importance in the national economy, the study has calculated the total capitalisation of

equities as a percentage of gross national income in 1978. The UK and Irish stock exchanges lead with 38.3, followed by Luxembourg with 28.1, Amsterdam 20.2, the German bourses 12.5, Brussels 11.7, Paris 8.9, Copenhagen 8.6 and Milan only 3.7. Between 1974 and 1978 Milan was the only one in which the total capitalisation of domestic listed equities fell, from the equivalent of \$11.7bn to \$9.8bn, though the latter admittedly represents a recovery from \$6.2bn in the

black year of 1977. In fixed interest bonds it is a different story. Thanks to the enormous weight of public sector issues, Milan comes third in 1978 with a total par value equivalent to \$83.1bn; behind the German bourses (\$28.1) and the UK and Ireland (\$162.2), but ahead of France (\$83.1). Italian bonds, however, give a yield well below the inflation rate, and leave unsolved the question of how the investor can preserve his capital.

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Experts studying law reform

AT THE end of October Sig. Filippo Maria Pandolfi, the Treasury Minister, took a first step towards the reform of banking legislation by setting up a commission of nine juristic experts charged with drawing up proposals to submit to Parliament. It was an objective he had pursued for some time. Other countries, as he told the annual meeting of the Italian Banking Association last July, had since the war studied and revised their banking structures—Britain with its Radcliffe Committee, the U.S. with its Commission on Money and Credit, and France, Belgium and Canada with comparable

initiatives. But Italy had remained outside this process.

Italian banking is in fact still regulated by a law of 1936, with certain amendments made after the war. Considering that it was formulated by a Fascist government to meet the very different social conditions between the two world wars, it has stood the test of time well; one reason for this is the strong role assigned to the central bank to guard against a repetition of the banking failures of the Great Depression. There is no pressure for the law's abrogation or radical reform. But inevitably it is outmoded in some respects.

For instance, the penalty for a commercial bank which fails to comply with central bank directives in matters such as limits on credit expansion is as little as L5,000, or for particularly serious cases a maximum of L100,000 (Article 87)—the equivalent of about £3 and 250 respectively. This historical curiosity results of course from the fact that these fines were drawn up when there were 90 and not 1,700 lire to the pound, which itself was then worth many more times than today. The central bank has to think of other ways of bringing offenders to heel.

But such curiosities could still have been tolerated had not the need for reform been brought to a head by the political assault on the Bank of Italy last spring. After the central bank's inspectors had uncovered irregularities in certain banks with Christian Democrat connections, a magistrate started legal proceedings against the then Governor, Sig. Paolo Baffi and the Deputy Director General Sig. Mario Sarcinelli. Sig. Baffi also had his passport temporarily withdrawn and Sig. Sarcinelli was jailed for 12 days. The magistrate subsequently told a Rome newspaper that Sig. Sarcinelli had ordered inspections in Christian Democrat strongholds and he "hoped Sarcinelli would learn the lesson."

The mud thrown has inevitably affected the staff at the central bank, one of the few

institutions left in the country with a reputation for competence, integrity, and independence of the political power. The bank's inspection service, which monitors banking activities, has slowed down. This autumn Bank of Italy executives went on strike for the first time. What Sig. Baffi called "the obscure design" against the bank has not been defeated.

The legal point at issue was a clash between Article 10 of the Banking Law and Article 2 of the Penal Code. Sig. Baffi and Sig. Sarcinelli were charged with not reporting to the judicial authorities the results of an inspection stated to have come across irregularities in the use put by the chemical company Societa Italiana Resine (Sir) of Government-subsidised credits lent by the Credito Industriale Sardo, a public medium-term credit institute.

Obliges

Article 2 of the Penal Code obliges all public officials (which includes officers of the Bank of Italy) who come across a crime to report it to the Public Prosecutor or a magistrate. On the other hand Article 10 of the Banking Law imposes secrecy on Bank of Italy officials.

Article 10 begins: "All news, information and data regarding banks subject to supervision by the Bank of Italy are protected by official secrecy in respect also of the public administration." After saying they are obliged to report any irregularities only to the head of the inspectorate (now the Governor), it ends: "The officials and employees of the Bank of Italy are bound by official secrecy."

In the case in point, the Bank of Italy said the inspectors' recommendation that there was nothing to report to the judiciary was cleared by a committee of senior officials, the legal department and the Governor himself. The issue was complicated by other factors, such as that Sig. Baffi had at one time acted as deputy chairman of Imi, another medium-term credit institute exposed towards

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ITALIAN BANKING AND FINANCE V

Money rates hit by rising inflation

THE STORM clouds of inflation and a massive public sector deficit have once again gathered over the Italian money market. Inflation in the last couple of months has been running at a monthly rate of over 2 per cent, pushing the annual rate to around 18 per cent, while efforts to control Italy's colossal public sector borrowing requirement continue to meet only scanty success.

The need to finance a public sector deficit which threatens to reach L42,000bn next year,

13.7 per cent of Gross Domestic Product, has forced the Bank of Italy to impose strict curbs on ordinary bank credit. And high inflation has pushed interest rates up, shattering the illusions that had sent share prices up in the summer on the Milan Stock Exchange.

But in spite of the attempts of commercial operators to breathe more life into them, Italy's rather pallid money markets remain unsophisticated by comparison with those in other major industrial countries. The interbank money

market has dwindled in importance in the past year in the face of competition from an ever-growing mass of short-term Treasury Bills. Longer-term bond issues are currently out of the market while potential borrowers wait for interest rate prospects to become clearer, and a nascent market for bankers' acceptances is still only in its infancy.

After a period of calm this summer, during which interest rates steadied at slightly lower levels at the short end of the market, restoring a more normal relationship between short and long-term yield, the market was jolted early in October by a 1.5 per cent rise in the official discount rate and a corresponding increase in banks' lending rates.

The increase in the discount rate, the first for more than a year, was Italy's somewhat belated response to climbing interest rates abroad, particularly in the U.S. It was made necessary by the sharp upsurge in inflation, a deteriorating balance of payments and fears that high borrowing costs abroad could prompt commercial operators to pay off their debts in dollars, with a consequent drop in the Bank of Italy's reserves.

The hike in the discount rate to 12 per cent was followed almost immediately by a 1.5 per cent increase in commercial banks' prime lending rates to 18.5 per cent, and by smaller increases in yields on the Treasury Bill market. Share prices tumbled on the Milan Bourse and bonds came under heavy selling pressure, forcing the Bank of Italy to intervene to defend them.

Ceiling

Later in October, the Central Bank announced new restrictions on bank lending, imposing a ceiling on the amount of money banks can lend to their clients between now and next July. The new regulations provided some relief for small companies, by extending the ceiling on loans which are exempt from growth restrictions to L1,300m from L1,000m. But they caught many banks off balance by taking as a new base for growth calculations the level of banks' lending in May this year, when credit demand in Lira was not particularly strong.

This has meant that some banks which had not fully used their lending quotas in that month have now found themselves left with a smaller quota for the next ten months, and there has been a consequent reshuffle in the market shares of individual banks. The credit squeeze is expected to be particularly tight this winter, when the main inflationary impact of recent oil price

increases will be felt. Credit conditions could become easier in spring, when the economy is expected to pass through a period of slackness. But in the first seven months of next year, credit growth will still be limited to an annual rate of 13 per cent, several points below the expected inflation rate.

These contrasting influences of rising inflation and high banking liquidity have led to a somewhat curious situation on the money market. The lending restrictions have channelled liquidity into investment in Treasury issues, and Treasury Bill yields and bank deposit rates.

The Bank of Italy's careful management of the market has so far effectively prevented the panic spiral in interest rates which occurred during the crisis year of 1976. At the routine monthly Treasury Bill auction in late October, yields on six months' Treasury Bills were set at 12.57 per cent, 1.2 per cent above their level at the previous monthly auction before the 1.5 per cent bank rate increase.

Yields on 12 months' Bills rose by an even smaller amount, 0.6 per cent, to 12.93 per cent. The result has been a fattening out of the yield curve, which over the summer had been steepening back to a more normal gradient, with the Bank of Italy allowing a proportionately larger increase in short-term yields than in longer-term yields.

But with Lira interest rates to some extent insulated from what is happening abroad by the credit curbs which force operators in need of extra credit to borrow in foreign currency, some bankers are beginning to wonder whether the Bank of Italy will not have to take further disciplinary measures to oblige banks to invest more of their surplus liquidity in longer-term bond issues. New issues of bonds by non-state borrowers have slowed down while the market waits for a clearer interest rate trend to develop. The growing importance of the Treasury Bill market, with more than 48,000 bn-worth of Bills now in circulation, has also had a negative impact on the interbank market. A leading Milan money broker, Euro-mobiliare, gave clear recognition to this fact earlier this year by suspending indefinitely its publication of quotes for the 48-hour call money rate.

All this hampered the development of a dynamic money market, long one of the most cherished goals of the Bank of Italy. The Central Bank has itself contributed to a more flexible market in the last few years by extending the range of its own intervention on the secondary Treasury Bill market. After adopting a more flexible approach to the sale of Bills

outside the routine monthly auctions last year, the Central Bank started this summer for the first time to buy bills back from operators in need of liquidity, although only at penalty rates with severe limitations as to the residual life of Bills it would accept.

The Central Bank plans shortly to introduce a further innovation to the Italian market: repurchase agreements under which it will buy Bills from banks needing liquidity for a given period, selling them back to the holder later at a price agreed on at the time of the original contract.

Modest

Progress has also been made in the development of a market for bankers' acceptances, which have been used as a fundraising instrument by a number of major industrial borrowers, including Fiat, Olivetti and Italsider. Since this market got off the ground a little over one year ago, the number of bankers' acceptances in circulation has risen to about L500bn. But this is still a modest figure compared with total banking credit of about L90,000bn, and non-banking investors have as yet hardly ventured on to this market.

Continued hopes for development of Italian money markets are now being pinned on attempts to speed up the flow information and encourage more lively secondary market trading. Both the Treasury Bill market and the market for bankers' acceptances could benefit from more active dealings, and the Bank of Italy has stated quite clearly its intention of encouraging the use of short-term money instruments to finance industry, as well as the State.

To help provide a more open marketplace, the Central Bank is backing plans to start operation early next year of a computerised market data service, to be made available to contributors and recipients through the Reuter monitoring system which already serves the Foreign Exchange Market.

The Bank of Italy will itself be inserting data on its own conditions for sale and repurchase of Treasury Bills. A number of other market-makers are also expected to contribute data on prices and yields, and the service will cover both Treasury Bills and longer term Treasury issues, bankers' acceptances, interbank money deposits and bonds not quoted on the Milan Stock Exchange. At the very least, this new system should bring an end to the different yields quoted in different parts of Italy for Treasury Bills of the same maturity.

By a Correspondent

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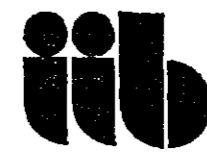
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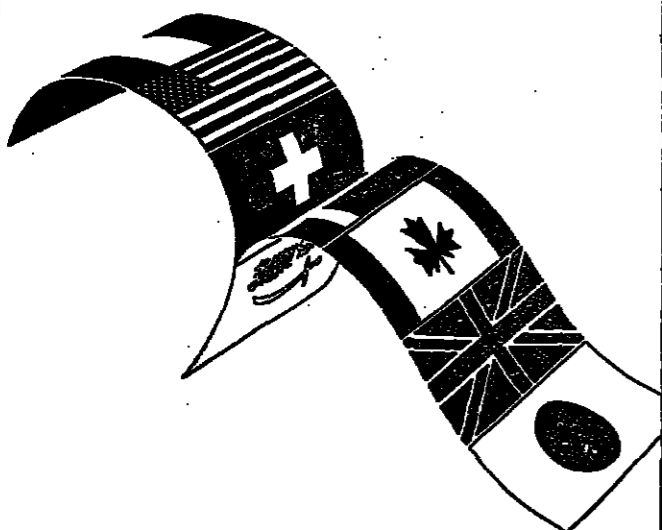
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Reform

CONTINUED FROM PREVIOUS PAGE

Sir, and that the Bank of Italy maintained the magistrates already knew about the allegations of irregularities in lending by Credito Industriale Sardo to Sir. But the essence was the inconsistency between the Banking Law and the Penal Code.

Sig. Barfi feels it must be made clear that the Bank of Italy's role is not, as he explained in a recent newspaper interview, to act as "agents of the investigative police but as the authority responsible for guaranteeing the equilibrium of the financial market." The need for Parliamentary action to clarify Article 10 has been echoed by others, including Sig. Pandolfi and the President of the Banking Association, Sig. Silvio Golzio. It will be a first priority for the commission.

The amendment of existing legislation in itself is unlikely to guarantee against the emergence of further banking scandals, of which the collapse of the Sindona empire and the unorthodox lending practices at Italcasse (the central institute of savings banks) are merely two prominent examples in a series. That can only come with a change of mentality in public life and when the less reputable members of the old school of politicians are eased out of power.

But it should provide greater certainty under which to operate. Another issue requiring clarification is in ensuring what Sig. Golzio has called "full operative parity among banks. Among the leading banks are nine in the public sector—the three "Banche di Interesse Nazionale" owned by the parastatal Istituto per la Ricostruzione Industriale (Banca Commerciale Italiana, Credito Italiano and Banco di Roma) and six "Istituti di Credito di Diritto Pubblico" (Banca Nazionale del Lavoro, Banco di Napoli, Banco di Sicilia, Banco di Sardegna, Monte dei Paschi di Siena and Istituto Bancario San Paolo di Torino).

At present a mistaken lending decision by an official of one of these banks could expose him

as a public servant to a charge of embezzlement of public funds, while a colleague in a private sector bank could get away with a minor penalty or possibly merely a reprimand for an error of judgment. The commission is expected to study the removal of this anomaly.

Rigid

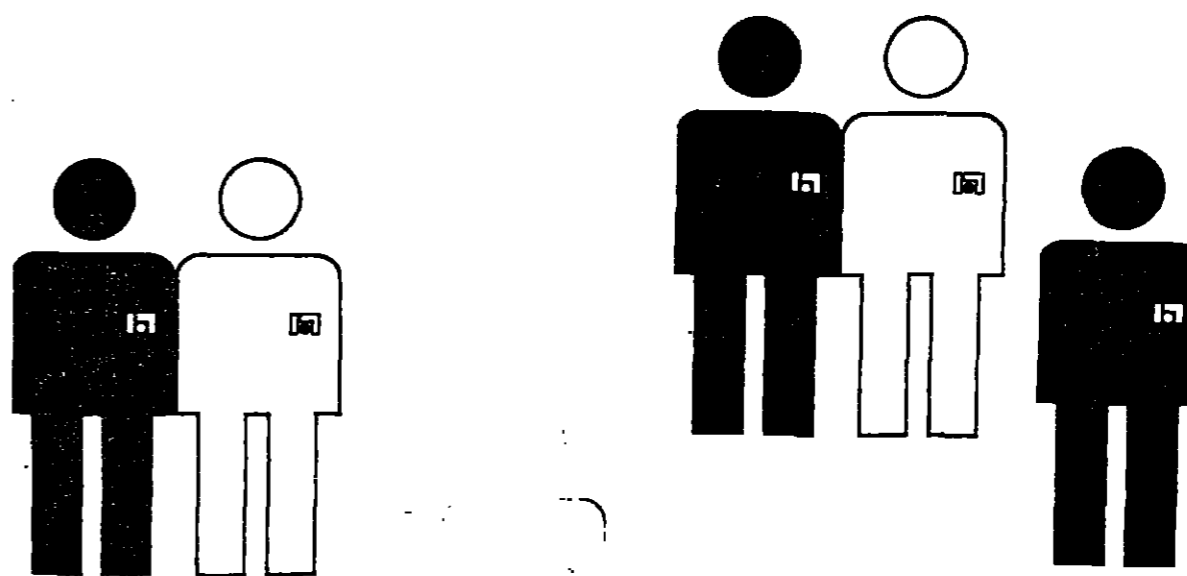
A third need for clarification concerns what Sig. Pandolfi has called the demarcation between banks and credit institutes. The 1936 law instituted a rigid division between banks, allowed to engage in short-term lending, and credit institutes, for medium and long-term operations. The distinction has become blurred, not only because credit institutes are often controlled by banks. Rather than simply abolish it, Sig. Pandolfi would like to see rationalisation of the parameters correlating short with medium-term lending.

The need for reorganisation is also recognised in sectors such as the structure of the savings banks and the co-operative "popular" banks, in the protection of depositors in the event of banking liquidations and in the more even territorial distribution of banks' areas of operation. Bankers themselves have frequently complained about the Foreign Exchange Law 159 of 1976, which requires them to check the accuracy of value declarations in export/import invoices, as if they were foreign trade experts. The foreign exchange regulations, moreover, are a maze of what Sig. Golzio has described as numerous "doubts and perplexities."

Foreign businessmen of various countries have more than once made representations about them to the Italian Government through their chambers of commerce. Such restrictions, besides being confusing, are all the more irksome to businessmen when countries like Britain have abolished foreign exchange controls.

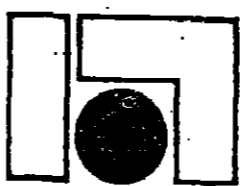
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ITALIAN BANKING AND FINANCE VI

Extensive network in the regions

IN A country whose economy is as fragmented as Italy's, it is no great surprise to find that there are more than 1,000 banks and other types of credit institutions. Some of them are big banks of national and international dimensions, like Banca Nazionale del Lavoro, Credito Italiano or Banca Commerciale Italiana, State-owned or State-controlled and all with a major presence in Italy or abroad.

But the great bulk of Italy's 1,071 credit institutions are small concerns of regional or local importance, playing a quiet but fundamental role in financing the small businesses which make up the backbone of the Italian economy.

Some of them, like Banca del Monte di Bologna e Ravenna, which was founded in 1473, are as old as banking itself. Others are of more recent origin, like the 166 co-operative banks set up for the most part in the last century to finance local enterprise. The largest category by far are the local Casse Rurali ed Agricole, many of them with only one branch, set up in the last 100 years to use local savings for extending credit to farmers and businesses. Despite

their lack of size, they are a dynamic force in the Italian financial scene.

In a geographically decentralised economy like Italy's, local finance means local power, and the top posts of Italy's major regional banks have long had an overtly political connotation. Some of the big State-owned banks, like Banco di Sicilia or Banco di Napoli, have names suggesting regional links which belie their national and international importance. But banks like these, and even more so the medium-term lending institutions such as Iseimer, which finances industrial development in Southern Italy, or Credito Industriale Sardo, which does the same for Sardinia, play a major role in the economic development of their main regional sphere of influence.

Some of these banks, in particular Credito Industriale Sardo, have been at the centre of national controversy in the past year over the role they played in the generous State financing earlier this decade of the financially troubled SIR chemicals group, whose Sardinian chemical plants were for months in a state of crisis and near-collapse. The SIR financing case, which has indirectly implicated senior banking officials at the Banks of Italy and other major Italian banks, appears with hindsight as a case of regional financing gone wrong. But although the enormous funds involved in this unhappy case history of industrial financing make the SIR saga one of national importance, it would be unfair to generalise from this example about the state of the rest of regional financing in Italy.

Among the State-owned ordinary banks, as opposed to medium-term lending institutions, Banco di Sardegna is the one with the most clearly defined regional character. Founded only 26 years ago as the successor to a much older agricultural financing institution, this youngest of the six Istituti di Diritti Pubblici has more than 50 branches in Sardinia and only three offices on the mainland — in Rome, Genoa and Milan. Banco di

Sardegna concentrates its business on firms with a commercial connection in Sardinia, where it accounts for around half of the island's banking business.

In a list of the number of bank branches operating in each region, Sardinia, still a predominantly rural economy with little in the way of industry, lags well behind the more developed regions of Northern Italy. Not surprisingly, the industrial region of Lombardy, whose capital, Milan, is also the capital of Italian banking, comes first, with 2,197 bank branches, followed by Emilia-Romagna with 1,218. Bottom of the league, and just below Sardinia, come the relatively poor and backward southern regions of Molise, with 45 bank branches, and Basilicata, with 113, both of them smaller in geographical area than Sardinia.

Italian savings banks, but representative offices in three foreign countries — Britain, the U.S. and West Germany — where it has one each in Frankfurt and Stuttgart.

But restrictions imposed by the Bank of Italy on the opening of new bank branches and the territorial limits set on the banking activity of smaller regional banks have limited the streamlining of banking business in Italy. In many cases banks wishing to expand their geographical range have had to resort to takeovers in order to gain the markets they wished to exert in other areas. This was the case earlier this year for Monte dei Paschi di Siena, the State-owned bank whose original foundation dates back to 1472, which recently bought from industrialist Carlo Pesenti's Italcementi group the Milan-based Credito Commerciale, with its 79 branches in the industrial Lombardy region.

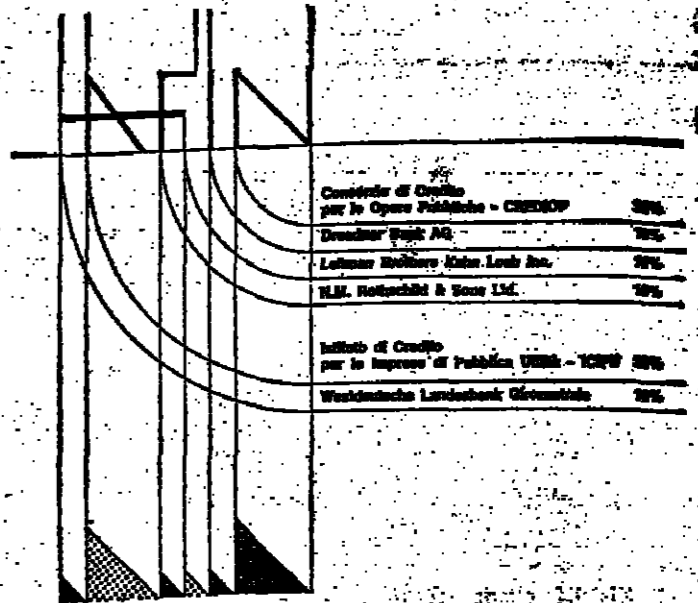
Poorer

The problem of financing the development of Italy's South, the Mezzogiorno region is one of the biggest headaches facing any Italian Government. It was with this aim in mind that the State fund for financing growth in Italy's poorer half, the Cassa per il Mezzogiorno, was set up in 1951 to provide subsidies and technical assistance for a wide range of projects. But banking credit still tends to cost more in southern Italy than in the industrial north, and although the number of bank branches for every 100,000 inhabitants is now nearly double what it was in 1951, the Mezzogiorno is still severely "under-banked."

To overcome their regional limitations, many of Italy's small banks have forged links nationally and internationally with other banks in order to extend the range of services they can offer to their clients. The Banca Popolare di Abbiategrosso, for example, based at Abbiategrosso, near Milan, and with 15 branches, advertises its ability to make currency payments to foreign banks in under a minute using the "Swift" interbank transfer system. Cassa di Risparmio di Genova e Imperia, one of the bigger

Banko Popolare di Novara, Italy's biggest co-operative bank with branches throughout Northern Italy and representative offices in seven foreign banking centres, has for some time followed a policy of taking over smaller co-operative banks in difficulties. Its latest acquisition, which brought it for the first time into the Campania region, was the Banca Popolare di Nola, a one-bank co-operative bank based near Naples.

The Banche Popolari, Italy's version of the co-operative banks which are also widespread in other European countries, are as a group perhaps the most dynamic category in the Italian banking sector. Since the first co-operative bank was founded at Lodi in Lombardy in 1864, the movement has grown to the point where co-operative banks in Italy have more than 600,000 registered shareholders and a 15 per cent share of the Italian banking market. Although these banks like other categories of Italian credit institutions, have their main area of activity in the industrial North, the co-operative movement is spread throughout Italy.



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Growing foreign contingent

DURING THE past five years there has been a small boom among foreign banks in Italy. Since the recovery of the Italian economy after the 1976 lira crisis an increasing number of leading foreign banks have turned their attention to Italy, where some 30 international credit institutes are now involved in a variety of operations. Six foreign banks control majority stakes in Italian-based credit institutes, with more than 100 counters in the country. Two hold minority stakes and 22 other international banks operate in Italy through authorised subsidiaries.

In large measure the operations of foreign banks in Italy are geared to servicing the branch offices and subsidiaries of the large international industrial groups with interests in the country, as well as some major Italian private and State enterprises like Fiat and Olivetti in the private sector and the Istituto per la Ricostruzione Industriale (IRI) subsidiaries in the State sector.

By dealing essentially with multinational customers and multinationals and the large Italian international groups, the foreign banks tend to have the cream of Italian business. At the same time during the last two years at least, they have concentrated on wholesale business, enjoying generous interest rate spreads in a relatively liquid market.

by the Italian State hydrocarbons group, Ente Nazionale Idrocarburi (ENI). In this sector the foreign banks have also made a major contribution in organising and putting together lending consortia and helping Italy's return into the Eurymarket.

Foreign banks today account for about 1 per cent of the overall business of credit institutes in Italy, and in a sense they have helped stimulate the foreign operations of Italian domestic banks. While the growth of Italian banks abroad has not matched the development of foreign banks in Italy in recent years, seven leading Italian credit institutes now have branches in 14 countries with operations totalling some Lit. 2,000bn a year, or about 10 per cent of their parent company's net assets.

However, in view of the more limited margins on the international market, the net profits of Italian banks abroad tend to be lower than in Italy. Moreover, according to Sig. Neri Nesl, chairman of Banca Nazionale del Lavoro, Italy's largest bank in terms of assets, Italian banks abroad could be strengthened by increasing their capital assets and the adoption of less restrictive policies.

Both Italian and foreign banks operating in Italy have been particularly active in foreign exchange loan operations since these do not fall under the Bank of Italy's restrictions on domestic credit expansion. In the wake of the country's improved external exchange position, with a remarkable overall balance of payments surplus of some Lit. 7,000bn last year and an expected if somewhat lower surplus this year, the monetary authorities have gradually eased a whole series of restrictive measures introduced following the 1976 lira crisis.

market, because of the much lower interest rates applicable on foreign funding. All this led to a market increase of the foreign indebtedness of Italian banks, which rose steadily from the depressed levels of the days of the 1976 lira crisis.

However, in recent weeks the situation has been changing. The general rise in international rates, particularly in respect of the dollar, has been putting renewed pressure on the Italian currency by encouraging speculation and capital outflows. Indeed the relatively lower Italian interest rates, which in the case of the central bank's discount rate and of the commercial banks' lending rate to prime borrowers had remained unchanged for some 12 months, has inevitably encouraged Italian operators to seek short-term debts, while encouraging at the same time further capital outflows towards higher yields.

Driving

Indeed, the U.S. credit institutions, which effectively have been the driving force behind the recent boom of foreign banks in Italy, have played a major contribution in developing the domestic interbank market and helping to modernise the Italian banking system with the introduction of bankers' acceptances and a series of other operations common in international banking.

With the elimination of the so-called "Italian risk" and the liquidity of the Eurodollar market, Italian concerns have been able to turn increasingly to the international markets, raising medium and long-term loans at attractive interest rates. In large measure, these loans have been directed either to consolidate company balance sheets or for specific ventures like the construction of a gas pipeline from Algeria to Italy

Together with the ceilings on lira loans to domestic customers, Italian banks in 1978 were pushed into additional foreign operations following the regulations obliging importers to finance all advance payments for imports in foreign exchange, and a further requirement, now abolished, that 50 per cent of credits arising from delayed payments on exports should be in foreign exchange.

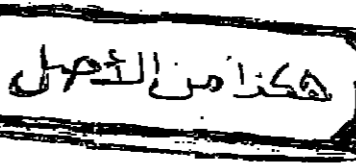
There was also a further attraction to turn to foreign operations, despite the narrower margins than on the domestic

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NEW YORK

Table of New York stock market data including columns for High, Low, Stock, and Nov. 16 prices. Lists various companies like IBM, AT&T, and General Electric.

INDICES

Table of stock market indices including Dow Jones Industrial Average, S&P 500, and various regional indices with their respective values and changes.

1979

Table of 1979 stock market data for various international markets including Australia, Austria, Belgium, Denmark, Germany, Hong Kong, Italy, Japan, Korea, and the Netherlands.

INDICES

Table of stock market indices for various international markets including Australia, Austria, Belgium, Denmark, Germany, Hong Kong, Italy, Japan, Korea, and the Netherlands.

1979

Table of 1979 stock market data for various international markets including Canada, France, Greece, India, Ireland, Israel, Korea, and the Netherlands.

INDICES

Table of stock market indices for various international markets including Canada, France, Greece, India, Ireland, Israel, Korea, and the Netherlands.

CANADA

Table of Canadian stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDICES

Table of Canadian stock market indices including the S&P 500 and other regional indices.

HOLLAND

Table of Dutch stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDICES

Table of Dutch stock market indices including the AEX and other regional indices.

JAPAN

Table of Japanese stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDICES

Table of Japanese stock market indices including the Nikkei and other regional indices.

ITALY

Table of Italian stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDICES

Table of Italian stock market indices including the FTSE and other regional indices.

NORWAY

Table of Norwegian stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDICES

Table of Norwegian stock market indices including the Oslo Stock Index.

SWEDEN

Table of Swedish stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDICES

Table of Swedish stock market indices including the Stockholm Stock Index.

Switzerland, Australia, and South Africa market data and indices.

Plaque marks first year HQ. THE SITE of the first headquarters of the Metropolitan Police in the Scotland Yard of Victorian England...

Brazil and Spain Prices: Page 20. NOTES: Prices on this page are as quoted on the individual exchanges and are last traded prices.

NEW YORK ACTIVE STOCKS. Table listing active stocks in New York with columns for Friday, Change, and Stocks Closing on Friday.

GERMANY. Table listing German stock market data including columns for High, Low, Stock, and Nov. 16 prices.

HONG KONG. Table listing Hong Kong stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INDIA. Table listing Indian stock market data including columns for High, Low, Stock, and Nov. 16 prices.

ISRAEL. Table listing Israeli stock market data including columns for High, Low, Stock, and Nov. 16 prices.

INTL. COMPANIES and FINANCE

PENDING DIVIDENDS

JAPANESE SHIPPING COMPANIES

Sharp recovery in first-half profits

BY YOKO SHIBATA IN TOKYO

JAPAN'S five major shipping companies, Nippon Yusen, Mitsui OSK Lines, Kawasaki Kisen, Yamashita-Shinmuhon Steamship and Japan Line all showed rapid recoveries in earnings for the first half of the year. The improvement was due to a recovery in the volume of export shipments and higher dollar-based freight income resulting from the depreciation of the yen against the dollar.

with the operating profits of ¥2.64bn, compared with an operating deficit of ¥2.64bn a year ago, thanks to a recovery in the tramp and tanker markets. Net profits amounted to ¥293m, against a net deficit of ¥795m a year ago, on sales of ¥129.41bn, up 14.6 per cent over the same period of the previous year. For the full fiscal year ending next March, Kawasaki Kisen expects operating profits of ¥1.3bn, against the previous year's operating deficit of ¥2.5bn. Its net profits are expected to reach ¥500m, up 27.8 per cent on sales of ¥280bn, up 17.9 per cent over fiscal 1978.

Linde expects increase in sales

BY KEVIN DONE IN FRANKFURT

THE WEST GERMAN engineering concern, Linde, is expecting sales to increase by 10 per cent this year compared with 1978. Order books after the first nine months are standing 17.5 per cent above last year's level.

The company's main activity is the manufacture of mechanical handling and hydraulic equipment, such as fork-lift trucks, and orders in this sector grew by 17.5 per cent in the first nine months of the year, while sales increased by 14.6 per cent to DM591.4m.

Alba signs \$70m credit deal

BY MARY FRINGS IN BAHRAIN

A \$70m LOAN agreement was signed in Bahrain last week between a group of 17 banks and Aluminium Bahrain (Alba). It is to part-finance Alba's \$120m expansion project, which will boost production capacity from 120,000 to 185,000 tonnes a year.

Clal Industries well ahead at halfway stage. By L. Daniel in Tel Aviv. CLAL INDUSTRIES, the industrial division of Clal, Israel's largest investment company, made net profits of LE354m (about \$8m) for the first half of the current fiscal year.

CURRENCIES, MONEY and GOLD

Forward sterling weakened on Thursday following the rise in Bank of England Minimum Lending Rate and demand for the pound in the spot market. Selling of the pound forward and a rise in Eurosterling interest rates increased sterling's discount against the dollar.

Under these circumstances movements in forward currency rates were largely the result of changes in interest rates. During the course of the week three-month Eurosterling advanced from 1 per cent below the corresponding Eurodollar rate to 2 per cent higher.

Table with columns for Gold Bullion (fine ounce) and Gold Coins, listing prices for various items like Close, Morning, Afternoon, Kruggerand, Mapleleaf, etc.

Table titled OTHER MARKETS with columns for Nov. 16 and Nov. 15, listing prices for various international markets like Argentina, Australia, Brazil, etc.

Table titled THE DOLLAR SPOT AND FORWARD with columns for Nov. 16, Close, One month, Three months, Six months, and Two years, listing rates for various countries like UK, Ireland, Canada, etc.

Table titled THE POUND SPOT AND FORWARD with columns for Nov. 16, Close, One month, Three months, Six months, and Two years, listing rates for various countries like U.S., Canada, Netherlands, etc.

Table titled EURO-CURRENCY INTEREST RATES with columns for Nov. 16, Starting, U.S. Dollar, Canadian Dollar, Dutch Guilder, Swiss Franc, West German Mark, French Franc, Italian Lira, Asian \$, and Japanese Yen, listing interest rates for various terms like 14.60-14.90 per cent, etc.

Table titled CURRENCY RATES with columns for Nov. 16, Bank rate, Special Drawing Rights, European Currency Unit, and various national currencies like Sterling, U.S. \$, Swiss Franc, etc.

Table titled LONDON MONEY RATES with columns for Nov. 16, 1979, and various financial instruments like Overnight, 2 days notice, 7 days notice, etc., listing interest rates.

Table titled CURRENCY RATES (continued) with columns for Nov. 16, Bank rate, Special Drawing Rights, European Currency Unit, and various national currencies like Sterling, U.S. \$, Swiss Franc, etc.

For the convenience of readers the dates when some of the most important company dividend statements may be expected in the next few weeks are given in the following table. The dates shown are those of last year's announcements, except where the forthcoming board meetings (indicated thus) have been officially published. It should be emphasised that the dividends to be declared will not necessarily be at the amounts or rates per cent shown in the column headed "Announcement last year."

Table of Pending Dividends with columns for Date, Announcement last year, and Dividend details for various companies like ANZ, Associated, Associated Engineering, etc.

Table titled LOCAL AUTHORITY BOND TABLE with columns for Authority, Annual Interest, Life, and Bond details for various local authorities like Barnsey, Bradford, Hampshire, etc.

Table titled BASE LENDING RATES with columns for Bank Name and Interest Rate, listing rates for various banks like A.B.N. Bank, Allied Irish Bank, Amro Bank, etc.

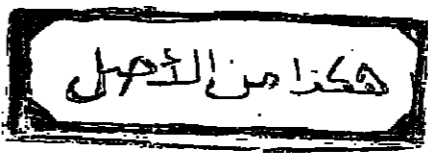
Table titled RECENT ISSUES with columns for Issue, Price, and Stock details for various companies like B.P. New, Cambridge Water, etc.

Table titled "RIGHTS" OFFERS with columns for Issue, Price, and Stock details for various companies like Bristol Waterworks, Cambridge Water, etc.

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Our Eurobanking Services in Luxembourg advertisement, highlighting money market and foreign exchange services.

UNIT TRUST SERVICE advertisement, listing various offshore and overseas investment options and fund managers.



FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

Table listing various unit trusts under the 'AUTHORISED UNIT TRUSTS' section, including names like Abbey Unit Trst. Mgrs. (a) and Allen Harvey & Ross Unit Trst. Mgrs. (a).

Table listing discretionary unit fund managers and their associated unit trusts, such as E.F. Winchester Fund Mgmt. Ltd. and E. F. Foy Unit Trust Mgmt. Ltd.

Table listing various unit trusts managed by different companies, including Mayflower Management Co. Ltd., Mercury Fund Managers Ltd., and National Westminster (a).

Table listing unit trusts managed by Commercial Union Group, Confederation Life Insurance Co., and Growth & Sec. Life Ass. Co. Ltd.

Table listing unit trusts managed by London Adren & Nthm. Inv. Assur. Ltd., London Indemnity & Gen. Ins. Co. Ltd., and London Life Linked Assur. Ltd.

Table listing unit trusts managed by Scottish Widows' Group, Standard Life Assurance Company, and Sun Alliance Fund Mgmt. Ltd.

Notes regarding the information provided, including details on how to interpret the data and contact information for the service.

INSURANCE PROPERTY BONDS

Table listing insurance and property bond products, including policies from companies like ABBY Life Assurance Co. Ltd. and British Royal Exchange.

OFFSHORE & OVERSEAS FUNDS

Table listing offshore and overseas investment funds, such as Alexander Fund, Allen Harvey & Ross Unit Trst. Mgrs. (a), and Arbuthnot Securities (C.I.) Limited.

Continued on previous page

FOOD, GROCERIES—Cont.

Table listing various food and grocery items with columns for stock, price, and other financial data.

HOTELS AND CATERERS

Table listing hotels and caterers with columns for stock, price, and other financial data.

INDUSTRIALS (Miscel.)

Large table listing various industrial companies with columns for stock, price, and other financial data.

FOOD, GROCERIES, ETC.

Table listing food, groceries, and other items with columns for stock, price, and other financial data.

FT SHARE INFORMATION SERVICE

FOREIGN BONDS & RAILS

Table listing foreign bonds and rail stocks with columns for stock, price, and other financial data.

BANKS & HP—Continued

Table listing banks and other financial institutions with columns for stock, price, and other financial data.

CHEMICALS, PLASTICS—Cont.

Table listing chemical and plastic companies with columns for stock, price, and other financial data.

ENGINEERING—Continued

Table listing engineering companies with columns for stock, price, and other financial data.

AMERICANS

Table listing American companies with columns for stock, price, and other financial data.

BEERS, WINES AND SPIRITS

Table listing beer, wine, and spirit companies with columns for stock, price, and other financial data.

BUILDING INDUSTRY, TIMBER AND ROADS

Table listing building, timber, and road companies with columns for stock, price, and other financial data.

CANADIANS

Table listing Canadian companies with columns for stock, price, and other financial data.

BANKS AND HIRE PURCHASE

Table listing banks and hire purchase companies with columns for stock, price, and other financial data.

ELECTRICALS

Table listing electrical companies with columns for stock, price, and other financial data.

ABMTM Group of Companies

Machine Tools, Marine, Education and Science, Projects. Head Office: 20 Park Street, London W1. Telephone: 01-492-1161/6.

BRITISH FUNDS

Table listing British funds with columns for stock, price, and other financial data.

INTERNATIONAL BANK

Table listing international banks with columns for stock, price, and other financial data.

COMMONWEALTH & AFRICAN LOANS

Table listing commonwealth and African loans with columns for stock, price, and other financial data.

LOANS

Table listing various loans with columns for stock, price, and other financial data.

FINANCIAL TIMES

Published in London & Frankfurt. Head Office: The Financial Times Limited, Bracken House, 10 Cannon Street, London EC4A 4BY. Tel: Editorial 8954871, Advertisement: 895303, Telegrams: Financial, London.

Overseas advertisement representatives in Central and South America, Africa, the Middle East, Asia and the Far East.

CHEMICALS, PLASTICS

Table listing chemical and plastic companies with columns for stock, price, and other financial data.

ENGINEERING MACHINE TOOLS

Table listing engineering machine tools companies with columns for stock, price, and other financial data.

Subscription information: Copies obtainable from newsagents and bookstalls worldwide or on regular subscription from Subscription departments—Financial Times in London, Frankfurt and New York.

INDUSTRIALS—Continued

Table of industrial stocks including companies like British Petroleum, Shell, and ICI, with columns for stock price, last price, and percentage change.

INSURANCE—Continued

Table of insurance stocks including companies like Lloyd's, Royal Indemnity, and Commercial Union Assurance.

PROPERTY—Continued

Table of property stocks including companies like British Land, Guinness, and Anglo-Spanish.

INVESTMENT TRUSTS—Cont.

Table of investment trusts including companies like British Investment, British Venture, and British Overseas.

FINANCE, LAND—Continued

Table of finance and land stocks including companies like London Finance, British Finance, and British Land.

Stewart Wrightson International Insurance Brokers for the U.K. logo and contact information.

MINES—Continued

Table of mining stocks including companies like Anglo-American, Anglo-Platinum, and Anglo-Tanzania.

LEISURE

Table of leisure stocks including companies like British Leisure, British Leisure, and British Leisure.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks including companies like British Leyland, British Leyland, and British Leyland.

Commercial Vehicles

Table of commercial vehicle stocks including companies like British Leyland, British Leyland, and British Leyland.

Components

Table of component stocks including companies like British Leyland, British Leyland, and British Leyland.

Garages and Distributors

Table of garage and distributor stocks including companies like British Leyland, British Leyland, and British Leyland.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks including companies like News International, News International, and News International.

SHIPPING

Table of shipping stocks including companies like British Shipways, British Shipways, and British Shipways.

SHOES AND LEATHER

Table of shoes and leather stocks including companies like British Shoe, British Shoe, and British Shoe.

SOUTH AFRICANS

Table of South African stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

TEXTILES

Table of textile stocks including companies like British Textiles, British Textiles, and British Textiles.

PAPER, PRINTING ADVERTISING

Table of paper, printing, and advertising stocks including companies like News International, News International, and News International.

PROPERTY

Table of property stocks including companies like British Land, British Land, and British Land.

TOBACCO

Table of tobacco stocks including companies like British American Tobacco, British American Tobacco, and British American Tobacco.

TRUSTS, FINANCE, LAND

Table of trusts, finance, and land stocks including companies like British Investment, British Investment, and British Investment.

OILS

Table of oil stocks including companies like Anglo-Platinum, Anglo-Platinum, and Anglo-Platinum.

OVERSEAS TRADERS

Table of overseas trader stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

TEAS

Table of tea stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

INDIA AND BANGLADESH

Table of India and Bangladesh stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

SRI LANKA

Table of Sri Lanka stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

AFRICA

Table of Africa stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

MINES

Table of mining stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

EASTERN RAND

Table of Eastern Rand stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

FAIR WEST RAND

Table of Fair West Rand stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

O.F.S.

Table of O.F.S. stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

FINANCE

Table of finance stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

DIAMOND AND PLATINUM

Table of diamond and platinum stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

COPPER

Table of copper stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

MISCELLANEOUS

Table of miscellaneous stocks including companies like Anglo-American, Anglo-American, and Anglo-American.

NOTES

Notes section containing various financial notices, company announcements, and market updates.

REGIONAL MARKETS

Table of regional market data including stock prices and market indices for various regions.

OPTIONS

Table of options data including call and put option prices for various stocks.

3-month Call Rates

Table of 3-month call rates for various companies and markets.

Bain Dawes A worldwide insurance broking service

SKIPTON BUILDING SOCIETY

Bid to avert row over NEB and Rolls

By John Elliott, Industrial Editor SENIOR MINISTERS are about to mount a concerted effort to solve the row over the National Enterprise Board's ownership of Rolls-Royce...

This followed Mr. Len Murray, TUC general secretary, contacting Sir John Meehan, CBI director-general to discuss the potential problems if the Government removed Rolls-Royce from the NEB...

They know that the labour law proposals now being drafted in a Bill will lead to a clash with the unions, and do not want to complicate matters at this stage with other problems.

The Prime Minister has been closely involved in the ministerial consultations and Sir Keith Joseph has come under intense pressure to defuse a row which some of his colleagues do not consider worth while.

If this does not work, Ministers are considering whether they could delay any major developments until next year, by which time Sir Leslie Murphy, chairman of the NEB will be approaching retirement...

By that time, further details about Rolls-Royce's financial problems may become known. It is thought that the aero-engine manufacturers' results for the current full year will be considerably worse than the relatively small £7m loss it reported in the first half.

The Government became concerned about Rolls-Royce problems shortly after the General Election and re-examined plans discussed a year or so earlier for forging a link between the company and GEC.

GEC has been involved in talks about Rolls-Royce for some years but no conclusion has been reached. The talks have covered ideas such as full merger, GEC taking over Rolls-Royce's industrial gas turbine work, creating a link-up in export markets, and GEC helping to strengthen the aero-engine manufacturers' management.

Labour law Bill plans toned down

By Christian Tyler, Labour Editor PRESSURE WITHIN the Conservative Party for a much tougher line against trade union activity is being resisted by senior Ministers.

It now looks almost certain that no attempt will be made in the labour law Bill, due before Christmas, to narrow the historic immunities from civil prosecution enjoyed by trade unions when taking industrial action.

Senior Conservative lawyers, Solicitor-General, have been pressing the Government to stick to its original decision to restore the immunity law to its 1974 position, when Labour's Trade Union and Labour Relations Act was temporarily amended by the Opposition.

Rhodesian troops cut Zambian rail link

By OUR FOREIGN STAFF LANDLOCKED Zambia's only remaining rail link to the coast was cut early yesterday when Rhodesian troops destroyed a bridge on the southern route vital to its economic survival.

The raid, which has not yet been officially acknowledged in Salisbury, came in spite of all-party agreement on pre-independence arrangements at the Lancaster House conference on Rhodesia. This allowed delegates to begin discussions on a ceasefire in the guerrilla war.

Closure of the line could also have serious consequences for Zaire, which uses the route for two-thirds of its copper exports and brings in coal, mining supplies and food from Rhodesia and South Africa.

NEB may choose Shotton as site for titanium plant

By JOHN ELLIOTT, INDUSTRIAL EDITOR SHOTTON STEELWORKS in North Wales, which faces imminent closure, may be chosen by the National Enterprise Board as the site for a £20m to £30m titanium plant.

It has emerged as the favourite among four old steelworking sites being studied by the NEB, which has abandoned its plans to build the plant on a green field site owned by the British Steel Corporation in Hartlepool.

The other sites are Corby, a second site in Hartlepool and a further North-East steelworks. But Shotton is thought to have special advantages, which include good railway and road communications, docks and efficient utility services.

A feasibility study is being completed and a decision is likely to be taken by the end of this month. The plant is expected to employ about 300 people.

Treasury's economic forecasting role in policy-making defended

By PETER RIDDELL, ECONOMICS CORRESPONDENT THE ROLE of economic forecasting and medium-term analysis in policy-making has been defended by Sir Douglas Wass, the Permanent Secretary to the Treasury, following recent political scepticism about its value.

His remarks, in a private speech last week to the Society of Long-Range Planners, come while the work of the Treasury's large forecasting side is being re-examined at the request of Ministers.

Sir Douglas appears more sympathetic to the continuation of such work than either Sir Geoffrey Howe, the Chancellor, or Mr. John Biffan, the Chief Secretary to the Treasury, since they have publicly stated their doubts about the usefulness of conventional economic projections.

The speech, shown to the Chancellor before delivery, is not without its controversy, which followed Sir Douglas's last speech on economic management in February 1978.

The remarks nonetheless represent a reasoned defence of forecasting. This reflects not only his personal view but also presumably, by implication, a desire to defend the professional competence of the Treasury.

Ulster plan for Commons tomorrow

By STEWART DALBY MR HUMPHREY ATKINS, the Northern Ireland Secretary, is expected to put his promised consultative document on devolution policy in Ulster before Parliament tomorrow.

The report is understood to contain about six different proposals for discussion at the Government's proposed conference on Northern Ireland, which is expected to start in the first week of December.

The proposals exclude the two extreme alternatives of the reunification of the two parts of Ireland and independence for Ulster.

Of the four, three have been intimated they will attend. They are the Democratic Unionist Party of the Rev. Ian Paisley, the non-sectarian Alliance party, and the main Catholic constituency party, the Social Democratic and Labour Party.

Only the Official Unionist Party, which has 15 MPs (out of a total of 12 Ulster MPs) has said it will not attend.

The attitude of the Official Unionists is obviously a worry in Whitehall, but Mrs. Margaret Thatcher is known to be personally determined to get events moving in Northern Ireland.

She seems to be hoping that the Government will be able to overcome the problems in the Province which have defeated other devolution schemes.

The Government is apparently planning to press ahead with the conference regardless. It hopes, perhaps, that now that the hard-line Mr. Paisley has agreed to participate, the Official Unionists will come round.

The minimum expectation is that the conference will be able to find some way of augmenting local government in the Province. Since the devolved Parliament at Stormont was abolished in 1972, Northern Ireland has been under direct rule.

Beneath the Secretary of State and his Ministers, Northern Ireland has no local government apart from 26 virtually powerless district councils.

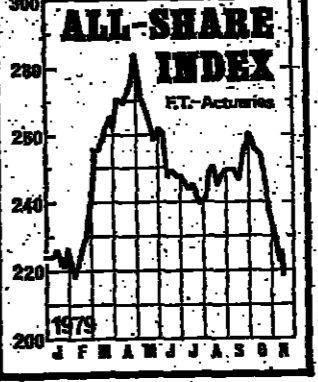
Mr. Atkins wants to find a way of providing the province with councils similar to county councils in the rest of Britain. The main problem here is to be the basis by which the proposed councils are controlled.

The main Unionist parties are against power-sharing. However, on a straight majority basis the Unionists would probably come to dominate regional or local councils. This would be unacceptable to the SDLP.

Continued from Page 1 Giscard they feel. She might also get a commitment to curb agriculture surplus along the lines being mooted in Bonn yesterday.

A safety net for share prices

The FT 30-Share Index has now tumbled 27 per cent from the post-election high of 558.6, and dividend yields look very high measured against past levels. By the end of last week the historic yield of the 30-Share Index was around 8 per cent, while the All-Share yield had nudged above 7 per cent.



The proposals exclude the two extreme alternatives of the reunification of the two parts of Ireland and independence for Ulster.

Unless some very nasty shock is lying in wait for the gilt-edged market, the burst of funding carried out on Friday is inevitably going to lead to speculation about how soon interest rates can start to come down.

It is possible that some companies in the more vulnerable sectors will find that even this manoeuvre will not enable them to hold their dividend payout next year.

All the same, total dividends are still expected to go up next year, though some estimates put the rise at little more than the 3 per cent recorded in 1979.

Mr. Thatcher is known to be personally determined to get events moving in Northern Ireland.

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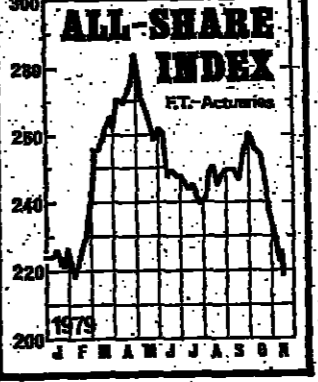
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per cent. Already the £710m call on Treasury 133 per cent 2000-03 on December 5 promises tight money markets, and heavy induction will come sooner if the £800m of Treasury 15 per cent 1985 is sold out on Thursday.

Chrysler UK The latest financial data from Chrysler UK shows how perilous a path the company has to follow over the next two years.

In 1978, the UK company could easily lose £40m, of which £10m will be funded equally by the taxpayer and Peugeot through the final grant under the revised 1976 agreement.

This year's losses will wipe out the remaining net assets in the business, which amounted to under £15m last December. At that time total debt was £147m, of which £102m was made up of bank loans and overdrafts—all guaranteed by Peugeot.

Peugeot's cash flow trials around £FR-4bn a year, or about £450m, and its impassive reaction to the recent industrial unrest in the UK company has confirmed that it is not going to be panicked by financial pressures in the short term.

—rather than the current year—will be the decisive period for the future of the old Chrysler companies in Europe.

Weather

UK TODAY DRY and bright at first. Cloudy with occasional rain later.

London, S.E. England, Cent. S. England, E. England Bright at first. Occasional rain later. Max. 10C (50F).

W. Midlands, N.W. England, S.W. Scotland Cloudy and dry at first. Rain later. Max. 9C (48F).

S.W. England, Wales Occasional rain. Drier later. Max. 10C (50F).

Ile of Man, Argyll, N.W. England, Ulster Cloudy with rain. Becoming drier. Max. 9C (48F).

Cent. N. England, Borders, Aberdeen, Glasgow, Cent. Highlands, N.E. Scotland Dry and bright. Rain later. Max. 9C (47F).

Outlook: Mild in the South. Cloudy with rain in the North and West.

WORLDWIDE

Table with columns for location, day, and weather conditions. Includes cities like Ajaccio, Algiers, London, Madrid, Moscow, etc.

Crusader advertisement featuring a globe and text: 'Who are pleased to announce their new U.K. contracts. Crusader administer a large portfolio of U.K. and overseas group employee benefit schemes...' Includes contact information for Douglas W. Scott.

Foreign exchange reform planned

By MICHAEL LAFFERTY, BANKING CORRESPONDENT BANKS operating in London will be able to deal directly with each other for all foreign exchange from January under a deal in an advanced stage of negotiation with money brokers and the Bank of England.

Continued from Page 1

Under existing rules banks in London must transact all their UK foreign exchange through money brokers recognised by the Bank. They can deal with each other directly for currency deposits and business done outside London.

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